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THE COEXISTENCE OF MYXEDEMA AND PERNICIOUS ANEMIA*

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THAT pernicious anemia may resemble myxedema and that myxedema may resemble pernicious anemia has long been apparent. Instances in which each of these diseases has been mistaken for the other are by no means uncommon. Since we now possess a successful treatment of each it becomes doubly unfortunate when such a mistake is made. Some of the points of similarity leading to confusion are severe anemia, sensations of chilliness, tongue symptoms, sensory disturbances in the extremities, edema, mental changes, and achlorhydria. Even with these points in common it would seem that, with the characteristic blood picture of pernicious anemia on the one hand and the typical physical features of myxedema on the other, separation should be easy. It has been impressed upon us recently that the two diseases may coexist, and the purpose of the present communication is to add five such cases to the few that have already appeared in the literature.

Lisser[1] reports having seen two cases in which a primary type of blood picture was associated with clinical evidence of myxedema and marked reduction in basal metabolism. Boothby[2] mentions having seen one. Kerppola[3] comments on the combination of pernicious anemia and myxedema and even advises the tentative administration of thyroid in the former disease. He suggests that in certain cases of pernicious anemia at least, thyroid hypofunction may play a part. Mackenzie[4] reports three cases of myxedema in all of whom a diagnosis of pernicious anemia was made prior to the determination of the basal metabolism. None of them, however, had red blood cell counts under three million and the blood pictures as described were not characteristic of pernicious anemia. Giffin and Bowler[5], who made a survey of the associated diseases present in a series of six hundred and twenty-eight patients with pernicious anemia, found only two in whom a diagnosis of hypothyroidism was entertained, and in them the metabolic rates were depressed only to the levels of minus 17% and minus 20%.

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The authors' cases are as follows:

CASE 1. Miss G. M. G. H. No. 303046.

A seventy-three-year-old American school teacher entered the Massachusetts General Hospital November 23, 1929. Her illness had begun very insidiously two years before with weakness and increased fatigability as the chief symptoms. At the time she was living in southern California. There gradually developed also numbness and tingling in her fingers and toes, together with clumsiness. Her skin became increasingly dry and her speech slow and voice hoarse. The autumn of 1929 was the first time she had been in New England since the onset of her illness and she found that she felt the cold unduly. Five months before entry it was noted that her skin was yellowish, and three months before entry her tongue was sore for two weeks.

In April, 1929, she consulted Dr. W. D. Sansum of Santa Barbara who has written us that he found an anemia of 3.0 million red blood cells and 70% hemoglobin, achlorhydria, and a basal metabolic rate of minus 27.8%. Dr. Sansum believed that liver extract and thyroid were indicated, but the patient did not give him an opportunity to try these out. She did take a little liver for a time, and also thyroid, which caused a marked loss of weight and improvement in strength. She persisted with neither of these forms of therapy, however, and at the time of entry had had no thyroid or liver for two or three months.

No history of cardiovascular symptoms was obtained. Her bowels had been somewhat constipated but kept regular with catharsis. Of recent years she had slept about twelve hours out of each twenty-four. Her menopause had occurred at forty-five. The family and past history seemed irrelevant.

Physical examination showed an old woman with puffy face, yellow, pallid, dry and harsh skin, and slow speech with thick, toneless, hoarse voice. She seemed to be mentally clear. The eyebrows were somewhat thin. The tongue was large and thick with atrophy of the mucosa laterally. There was a chronic blepharitis with mucoid discharge. The heart, which showed a systolic murmur loudest at the apex, did not seem to be enlarged. The sounds were regular and of good quality and not rapid. There was slight impairment of conduction sense in the lower extremities. There was a large pedunculated fibroma of the perineum. In other respects the physical examination seemed unimportant.

The laboratory findings were slight to moderate albuminuria, marked anemia of a primary type—high color index, considerable variation in shape and size of red blood cells with both microcytes and macrocytes present, and reduction in the number of platelets. The gastric contents showed complete absence of free hydrochloric acid and low combined acid. Lumbar puncture showed nothing remarkable. The total protein was 38. The electrocardiogram showed a flat T wave in all leads. The sulphonephenolphthalein test showed an excretion of 30%. The Hinton test was negative. The blood pressure was 110/65. The basal metabolic rate was minus 26%.

On the basis of all these findings it was concluded that she must have both myxedema and pernicious anemia, and it was decided to observe independently

the effect first of liver extract and then of thyroid. The various results of these therapies are shown in the chart (Fig. 1). Unfortunately thyroid therapy had to be started before the full effect of liver extract had been noted, owing to the fact that on November 29 a quarter of a grain of morphine given her in preparation for the removal of her perineal fibroma so greatly intensified all the manifestations of her myxedema that it was deemed necessary to start thyroid therapy at once*. Two intravenous injections of thyroxin, 1 mg. each, were given, one on November 30 and one on December 2. All the remaining thyroid therapy shown in Fig. 1 was in the form of thyroid by mouth. From the time that this morphine episode occurred she has been taking both liver extract and thyroid. As can be seen in the figure, an entirely typical reticulocyte response occurred at the appropriate time after the commencement of liver therapy (six days), and a week or so later an equally typical rise in basal metabolic rate, due to thyroid medication. The picture of intense myxedema responded very rapidly to thyroid; the rapid disappearance of the edema is indicated in the chart by the sudden drop in weight. Thyroid dosage was inadvertently pushed to the point of giving a hypermetabolism but without thyrotoxic manifestations other than a tachycardia of 112. The metabolism fell to a normal level after a week off thyroid and has been maintained there since.

The red blood cell count and hemoglobin climbed steadily toward normal, due presumably to the liver therapy, for the rate of increase was faster than that at which the anemia of myxedema responds to thyroid.

The mental state, which had become cloudy after the morphine episode, was the last to clear and all objective evidence of myxedema had been gone for some time before her mind was entirely lucid. On January 11 she was discharged, essentially in perfect health, and when seen in the out-patient department on January 29, this had continued.

She went to Florida for the rest of the winter continuing to take two vials of liver extract and Armour's thyroid, grains one and one-half, daily.

On her return she reported for observation May 16, 1930. She was apparently in perfect health. The basal metabolic rate was minus 6%, the red blood cell count was 4.1 million per cubic millimeter and the hemoglobin 78% (Sahli).

She was last seen October 28, 1930. She had been taking one and one-half grains of thyroid once daily with an extra tablet twice a week, and two vials of liver extract (Lilly 343) per day, with an extra vial twice per week. She felt very well and was alert mentally. She had a good wind. Her bowels were moving daily without catharsis. There were no hypothyroid symptoms whatever. Her deafness was not increasing. The only cardiorespiratory symptom

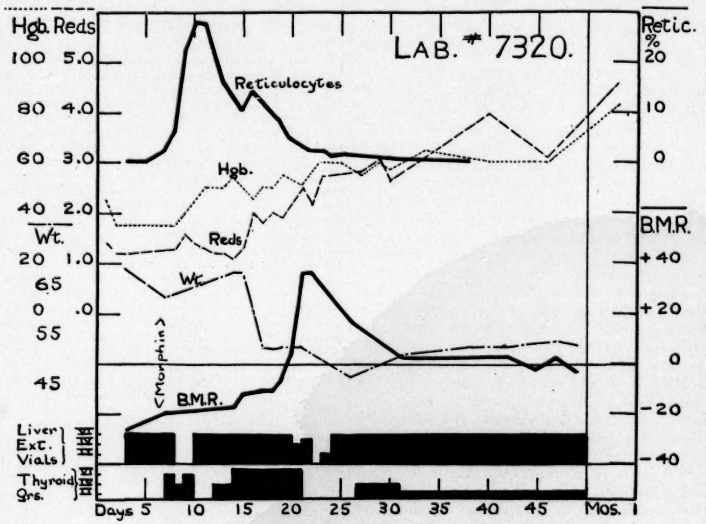

FIG. 1. Case No. 1. Miss G. Reticulocytes are shown in per cent. of total red cells, hemoglobin in per cent., red cells in millions per cubic millimeter, weight in kilograms, and basal metabolic rate as per cent. variation from the Sage standards. Liver extract is shown in terms of vials of liver extract (Lilly 343) per day by mouth, and thyroid in terms of grains of U. S. P. thyroid per day by mouth, except that for the first and third day of thyroid therapy an equivalent dose of thyroxin was given intravenously.

*This extraordinary response to morphine which appears peculiar to myxedema has been described more fully and its significance discussed by E. B. Benedict, Jour. Amer. Med. Ass., xciv, 1916, 1930.

was an occasional consciousness of the heart beat when she went to bed. There was no locomotor difficulty. Her fingers felt a little stiff on arising and her feet were slightly cold at times.

She appeared extremely well. Her speech and expression were normal. There was no pallor and the skin was warm and moist. Her tongue was clean and not atrophic. The impression was that her two diseases were under complete control. The red blood cell count was 4.4 million, the white blood cell count 6,400, hemoglobin 80%. Basal metabolic rate was minus 3% and pulse 61.

CASE 2. Mr. H. M. G. H. No. 287552.

A fifty-three-year-old, single, blind, chair caner, native and resident of Massachusetts, entered the Massachusetts General Hospital on November 22, 1927. The story was that seven years previously there was gradual development of swelling of his face, abdomen, scrotum, and extremities. His hands and feet became very cold and he became breathless on less effort than formerly. He did not recall any change in hair or tongue. His doctor made a diagnosis of myxedema and treated him with thyroid. There was marked improvement within a few weeks with disappearance of most of the symptoms except some slight general swelling and weakness. He continued to take thyroid until the day of entry.

Two years before entry his sister noted pallor, and from time to time the swelling of his feet increased. One year before admission the swelling of his feet increased considerably, as also did the pallor. Six months later numbness of his fingers appeared. This was sufficient to interfere with his work, and it gradually grew worse. Along with it the dyspnea increased and two weeks before entry he became unsteady on his feet, especially at night.

He denied any sort of stomach trouble and said that he had always been very fond of fats, fat meat, and green vegetables. His tongue had occasionally been sore, due he thought to excessive smoking. The blindness in his right eye had begun between the ages of twelve and fourteen years following a head injury; that in the left at the age of forty-three. The past history in other respects seemed unimportant.

Physical examination showed a gray haired, blue eyed, very pale man with definite yellow tint to his skin. His appearance did not suggest myxedema. The neck and face, especially around the eyes, were pigmented. The pupils were slightly irregular and reacted rather sluggishly to light. The sclerae were definitely yellow. The heart was slightly enlarged, regular and rapid, with a blowing systolic murmur heard over the whole precordium. The liver was 4 cm. below the costal border. The spleen was not felt. There was edema of both lower extremities. The knee jerks were diminished; the ankle jerks were normal. Position sense was poor in the feet but vibration sense seemed normal. There was no ataxia. In other respects the physical findings seemed unimportant.

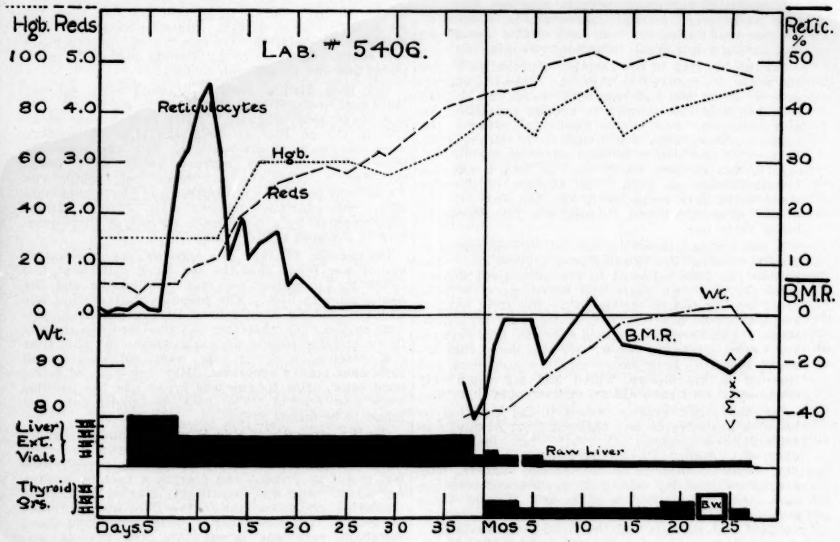

FIG. 2. Case No. 2. Mr. H. The several factors are represented in the same manner as in Fig. 1. The liver was given in the form of extract (Lilly 343) except as indicated in the chart. The thyroid was a U. S. P. preparation except as indicated by the block labelled "B. W." "Myx." indicates the point at which myxedematous manifestations were present definitely.

The laboratory findings showed a blood picture typical of pernicious anemia, with 630,000 red blood cells per cubic millimeter and 30% hemoglobin. There was marked variation in shape of the red blood cells, many macrocytes full of pigment, polychromatophilia, and rare platelets. The white blood cell count was 3,300 per cubic millimeter, the icteric index 15, the urine essentially negative, and the gastric contents showed no free hydrochloric acid in either fasting or test meal contents. The blood Wassermann was negative. The blood pressure was 120/50.

On the strength of these findings a diagnosis of pernicious anemia with slight cord changes was made. An eye consultant found secondary optic atrophy and marked hemorrhagic retinitis.

The patient was treated with liver extract (Lilly 343) on which, as shown in the chart (Fig. 2), the characteristic pernicious anemia response occurred with well-marked clinical improvement, in spite of the fact that during the first week of this therapy he was having a low grade bronchopneumonia.

During his stay in the hospital, a period just over six weeks, he received no thyroid. Since his appearance at entry had not suggested myxedema, it had been assumed that pernicious anemia explained the entire picture. Just before discharge, however, the basal metabolic rate was found to be minus 42%. In view of the history of past improvement on thyroid it was thought likely that he had a genuine hypothyroidism as well. The absence of physical signs could have been due to the fact that the six weeks' interval without thyroid was insufficient to bring them out.

It was decided, therefore, not only to continue with the liver extract but to administer thyroid also. The patient has been followed in the out-patient department for over two years and his progress is indicated by the chart. Although at the time thyroid was started he had not seemed definitely myxedematous, yet on thyroid he gained strength, felt warmer, and talked somewhat faster. He also noted that his beard began to grow faster and the numbness and tingling in his fingers, which had not completely disappeared on livers, did so on liver plus thyroid.

On one recent occasion, owing to the fact that on his own initiative he had changed from Armour's to Burroughs-Wellcome's thyroid*, his metabolism dropped to minus 23% and he developed some slight but definite symptoms of myxedema, namely, lethargy, harsh and dry skin, puffy eyelids, and constipation. On resumption of Armour's thyroid these symptoms disappeared. These various circumstances, coupled with the fact that the blood picture remained essentially unchanged during the period that he received thyroid medication, seemed to justify the opinion that he had true myxedema as well as pernicious anemia.

The weight behavior of this patient deserves mention as being unlike that usually observed in the myxedematous patient who is receiving thyroid. In other words, it rose as his metabolism did, instead of falling. This can be explained by the fact that he had no evident hypothyroid water storage at the beginning of thyroid therapy, and by the fact that as his blood picture improved on liver treatment, his general health greatly improved, also his appetite, so that he tended to put on weight.

He has been kept under observation in our thyroid clinic and was last seen on November 19, 1930, and seemed to be quite well. He said he was stronger than he had been for a number of years. He was taking three grains of thyroid daily and one-quarter of a pound of liver per day. His basal metabolic rate was minus 1% and pulse 79. The red blood cell ccunt was 5 million, hemoglobin 80-85%.

*This does not imply that the drug put out by one of these companies is superior to that made by the other. It is simply that the iodine concentration, and consequently the dosage, is different.

CASE 3. Mrs. C. (Private patient of W. B. C.)

A widow of sixty, dressmaker by trade, was first seen on July 31, 1928. For ten weeks prior to that she had been under treatment in another clinic. A diagnosis of pernicious anemia had been made on the basis of a six months' history of burning sensation in the tip of the tongue, palpitation, and slight swelling of the ankles, together with the physical findings of yellowish tinted skin with puffiness about the face, marginal atrophy of the lingual mucosa, and the blood picture of 3.0 million red cells per cubic millimeter, 75% hemoglobin with slight anisocytosis and tendency to large cells. The gastric analysis had shown achlorhydria. Liver diet had been advised, and until June 23 she had taken about 50 gm. of liver daily. After that she had been put on Armour's liver extract, dilute hydrochloric acid, and Fowler's solution. On this régime the red blood cell count had risen to 4.2 million per cubic millimeter and the hemoglobin to 83%.

Her past history seemed unimportant. All her teeth had been removed twenty years previously. She had never been pregnant. When seen by one of us (W. B. C.) on July 31, 1928, the physical findings were essentially as given above. She was placed on three vials of liver extract (Lilly 343) daily. On May 7, 1929, the red blood cell count was 4.4 million per cubic millimeter and the hemoglobin 99%. She continued on two vials of liver extract supplemented by a home-made extract of three-quarters of a pound of liver daily.

On October 23, 1929, she reported for observation and it was found that the red blood cell count had fallen to 3.6 million per cubic millimeter and the hemoglobin to 67%. The amount of liver that she had been taking should have been sufficient to prevent such a drop, therefore she was studied carefully in an attempt to find an explanation. At this time she presented a rather pale, waxy appearance with somewhat scanty eyebrows. Her lips were of fairly good color. Her tongue was broad and the papillae were now normal. The basal metabolic rate was found to be minus 23%.

On the strength of this it was concluded that although she could not be said to present the fully developed picture of myxedema, a true hypothyroidism might be present and playing a part in holding her down. She was accordingly started on thyroid (Lederle), grains two daily. The liver was continued as before. On November 7, 1929, when the basal metabolic rate was minus 18%, the thyroid was changed to Armour's grains three daily. The metabolism steadily rose under this régime, being minus 3% on December 5 and minus 6% on December 19. The red blood cell count was then 4.0 million per cubic millimeter and the hemoglobin 73%. There was a very definite symptomatic improvement under thyroid therapy.

The next case is a private patient of Dr. G. R. Minot, to whom we are indebted for permission to publish it here.

CASE 4. Mrs. M. W. (Private patient of Dr. Minot.)

This patient, a married, American housewife of fifty-seven years, was first seen on May 10, 1927. At that time there was a story of "dyspepsia" for five years, and constipation, flatulence, asthenia, dyspnea on effort, and slight edema of the ankles for three months. There had been no soreness of the tongue, but some slight tingling of the fingers. She had gained weight, from 150 to 200 pounds, since her menopause seven years before. Her family and past story seemed irrelevant.

On physical examination nothing of great moment was made out beyond obesity, pallor, and a functional systolic murmur in the heart. The blood showed 2.1 million red cells per cubic millimeter and 65% hemoglobin, 3,000 white cells per cubic millimeter, and a smear typical of pernicious anemia. There was gastric achlorhydria.

On 200 gm. of whole liver daily she rapidly improved, so that on July 8, 1927, her red blood cell count was 3.9 million per cubic millimeter. The liver was increased to 400 gm., but in spite of this the red cell count showed no further rise, being 3.8 million per cubic millimeter on August 10 and 3.9 million on September 16.

On this account, and also because she had gained 20 pounds more, the diagnosis was reconsidered. It was found that the patient was very fond of hot weather and hated cold, also that her skin had been very dry during the preceding five years.

Examination at this time (September 16, 1927) showed that the hair was obviously coarse and the skin harsh and dry. The tongue was large but not sore. There were heavy pads of fat over the clavicles. She complained of feeling drowsy and could sleep on the slightest provocation. Two determinations of the basal metabolism gave results of minus 32% and minus 28%.

The patient was then started on grains three and one-half of Burroughs-Wellcome and Company's thyroid per day. In two weeks there was slight heart pain on exertion which disappeared when the patient was at rest. After two weeks of thyroid the basal metabolic rate was minus 18%; after one month (October 20, 1927) it was minus 8%. During this period on thyroid the red blood cell count rose to 4.5 million per cubic millimeter. The thyroid was then increased to grains four and one-half and this was continued until January 29, 1930, when the patient was last seen. During this time the basal metabolic rate remained between minus 9% and minus 1%, and the red blood cell count between 4.6 and 5.2 million per cubic millimeter. The smear was essentially normal.

During the thyroid therapy the hair became finer and the skin more moist. Somnolence disappeared and her whole sense of well-being improved. Furthermore her weight dropped from 220 to 160 pounds.

The last case is one that Dr. W. P. Murphy treated in the private ward of the Peter Bent Brigham Hospital and has kindly allowed us to report here.

CASE 5. Mr. B. P. B. B. H. No. 17559.

A married, white provisioner of fifty-seven entered the hospital April 15, 1926. There was a story of sallow color gradually increasing during the past six or seven years, and of difficulty in keeping warm and asthenia for the past two or three years. Eight months before, after an attack of vomiting, a laparotomy was done and a "bad appendix" was said to have been removed. Following this he developed increasing weakness and dyspnea, also numbness and increasing difficulty in keeping his feet warm. Another attack of vomiting occurred the day before entry. Three years previously his tongue had got sore easily on excessive smoking. In other respects the past history seemed irrelevant.

The physical examination showed a poorly nourished man with lemon yellow skin, a smooth, red, shiny tongue, slight peripheral sclerosis, and a few fine crackling râles in the lungs. The urine was not remarkable and the gastric analysis showed no free hydrochloric acid. The red blood cell count was 1.7 million per cubic millimeter, white blood cell count, 3,200 and the hemoglobin 40%. The smear showed considerable variation in shape and size of red cells with no achromia. A diagnosis of pernicious anemia was made and a diet containing liver and sweetbreads ordered. On this he rapidly improved and on May 1, 1926 the red blood cell count was 3.0 million per cubic millimeter and the hemoglobin 75%.

On January 28, 1928, he was admitted the second time. In the interim he had received liver constantly but in irregular amounts. The red blood cell count had varied between 3.5 and 4.7 million per cubic millimeter. He had complained of weakness, dyspnea on effort, unsteadiness of gait, and constant inability to keep warm. His hands had been stiff in cold weather and his skin had become dry and scaly.

Physical examination at this time still showed icteric tint to the skin and sclerae. The voice had become hoarse, the features coarse, and the eyelids puffy, with a gelatinous, non-pitting edema. The tongue had become large and seemed to fill the mouth. The skin of the legs and forearms was definitely dry and scaly. The axillary hair was scanty and so were the outer ends of the eyebrows and the hair in front of the ears. The thyroid gland was not palpable. The heart was slow but not enlarged. There was a systolic murmur at the apex. The aortic second sound was accentuated. There were crackling râles at the bases of the lungs. The reflexes were exaggerated but there was no Romberg, Babinski or change in sensation. The gait was unsteady and mentality seemed distinctly dull. The red blood cell count was 3.9 million per cubic millimeter, hemoglobin 84%. The basal metabolism was minus 27%.

A diagnosis of myxedema and pernicious anemia in remission was made, and thyroid by mouth was started (January 30) in the dosage of nine grains daily. This dose proved excessive for on the third day the pulse rose to 100 from 60. He collapsed and developed acute pulmonary edema with foamy, blood-streaked sputum. He was given morphine, digitalis, and sodium bromide and in a day or two was quite all right with a basal metabolic rate of plus 2% on February 3 and of minus 2% on February 7.

He was placed on thyroid grains one (Armour) daily and broiled liver two pounds per week, and when seen on December 1, 1928, was doing fairly well with a red blood cell count of 3.2 million per cubic millimeter and hemoglobin of 70%.

He was seen again on October 9, 1929. At that time there was some ataxia but in other respects he felt fairly well. The red blood cell count was 2.5 million and the hemoglobin 80%. He had taken the thyroid grains one nearly every day but the liver he had dropped to one and one-half pounds per week.

DISCUSSION

Four of these five patients had undoubted pernicious anemia and myxedema. They showed the typical response of the pernicious anemia patient to liver therapy and of the myxedematous patient to thyroid. One patient (Case 3) had very suggestive evidence of each disease and apparently fairly typical responses to liver and thyroid. All of the patients had gastric achlorhydria and hypometabolism before thyroid was given. In cases Nos. 3, 4, and 5 the pernicious anemia syndrome apparently developed first, in case No. 2 the myxedema, and in Case No. 1 it is impossible to determine. In Case No. 2 thyroid had been given before liver; in the others liver was the first of the therapeutic agents used.

Whether or not we are dealing with anything

more than an accidental association of two diseases is not clear. We certainly have no good ground for assuming that in the cases reported either disease predisposed to the other. In these patients each disease apparently responded to its appropriate treatment, but no evidence was secured that it responded to that of the other.

Nevertheless the combination of pernicious anemia and myxedema is of theoretical as well as practical interest. There is, of course, often an anemia in myxedema, though usually it is of the secondary type. The precise way in which thyroid lack affects hematopoiesis is a matter of debate. It is possible that withdrawal of the sustaining action of thyroxin on the activity of the bone marrow leads to anemia due to deficient manufacture of blood. This influence coupled with deficient gastric function (in this connection it should be noted that many, though not all, patients with myxedema have gastric achlorhydria) might lead in certain cases to the production of the pernicious instead of the secondary type of anemia. In some of the patients dealt with here, however, the pernicious anemia antedated the myxedema, and one of them developed pernicious anemia in spite of thyroid medication for seven years. That pernicious anemia plays any rôle in the subsequent degeneration of the thyroid there is no reason to believe. As a matter of fact the basal metabolism in pernicious anemia is ordinarily normal or slightly elevated[6, 7, 8]. The knowledge that in certain cases a hypothyroid factor may be present makes routine determination of the basal metabolism desirable. When found subnormal, thyroid therapy as well as liver should be tried.

CONCLUSIONS

1. Myxedema may resemble pernicious anemia. Pernicious anemia may resemble myxedema.
2. The two diseases may coexist.
3. Under such circumstances each disease responds to its appropriate treatment.
4. Knowledge that the two may coexist is important to the clinician for it seems certain that some patients require treatment with both liver and thyroid.

REFERENCES

1 Lisser, H.: In Blumer's Bedside Diagnosis, iii, 48, Philadelphia, 1928.
2 Boothby, W. M.: Oxford Medicine, iii, 946, New York, 1921.
3 Kerppola, W.: Finska läk.—sällsk. handl., lxv, 330, 1923. Abstract in Jour. Amer. Med. Ass., lxxxi, 1401, 1923.
4 Mackenzie, G. M.: Jour. Am. Med. Ass., lxxxvi, 462, 1926.
5 Giffin, H. Z. and Bowler, J. P.: Minn. Med., vi, 13, 1923.
6 Meyer, A. L. and DuBois, E. F.: Arch. Int. Med., xvii, 965, 1916.
7 Tompkins, E. H., Brittingham, H. H. and Drinker, C. K.: Arch. Int. Med., xxiii, 441, 1919.
8 Boothby, W. M. and Sandiford, I.: Physiol. Rev., iv, 69, 1924.

THE EIGHTH NEW ENGLAND HEALTH INSTITUTE*

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THE New England Health Institutes are held annually in one of the New England States in rotation. While the United States Public Health Service and various teaching institutions and unofficial organizations coöperate, the primary responsibility for the Institute rests on the Health Department of the particular state in which the Institute is held. Last April the Eighth New England Health Institute was held in Massachusetts, and it seems that our experience as to cost, attendance, program and the like might be of value to others since meetings of this general type appear to be increasing in frequency at such a rate that they may eventually menace the sanity of those primarily responsible for them, even though they may well be invaluable factors in creating that informed public opinion on which progress in public health in this country must be based.

The preparation for the Institute took eleven months. There were thirty coöperating agencies and twenty sections. The new sections so far as these Institutes were concerned were Medical, Dental, Nursing (as contrasted with Public Health Nursing), Public Health Social Work, Adult Hygiene and Hospital. There were 118 meetings held in 27 hours during four and one half days, besides luncheon and dinner meetings. A discusser was announced for each paper, which, by the way, more than doubled the work of program making. As a bait to draw in practicing physicians and dentists special clinics were offered during three mornings through the coöperation of the various hospitals, infirmaries and dental schools, in which Boston is particularly rich. Twenty-seven clinics on 15 subjects of importance to the public health were offered the physicians, which, for local and foreign talent would grace the most exacting medical meetings. Nine clinics on three subjects were offered the dentists. The attendance at these clinics was profoundly disappointing although we circularized all the physicians (18,000) and all the dentists (12,000) of New England.

Thirty thousand advance programs were sent out. Official and unofficial agencies carried notices in their bulletins. The *New England Journal of Medicine* was generous with its space. On the whole, the advance newspaper publicity was disappointing. There were 1823 registrations, of which 265 did not pay, being members of the "faculty". The number of those "crashing the gate" was variously estimated up to 500.

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It is a very vexing matter to have an atmosphere of cordiality to all comers, and still reduce the unregistered attendance to a minimum. Programs could be obtained only at the registration desk which fact had a certain moral value, but it would seem that as our standard of living rises our neglect of the financial amenities becomes more general. The registration by professional groups is shown on Table I. Of course the classification is not exact since some of those classified as practicing physicians and dentists may well be serving part time in the schools. However, it gives an idea of the distribution of attendance.

TABLE I

REGISTRATION AT NEW ENGLAND HEALTH INSTITUTE BY OCCUPATIONS

		Number	Per Cent.
1.	Nurses	727	39.9
2.	Practicing Physicians	248	13.6
3.	Federal and State Health Departments	108	5.9
4.	Voluntary Health Organizations	108	5.9
5.	Students	106	5.8
6.	Educationists	93	5.1
7.	County and City Health Departments	74	4.1
8.	Social Workers	60	3.3
9.	Dentists	58	3.2
10.	Dietitians	38	2.1
11.	Hospital Executives and Staff	34	1.9
12.	Engineers and Chemists	24	1.3
13.	School and Industrial Physicians	13	0.7
14.	Miscellaneous	25	1.4
15.	Unknown	107	5.8
	Total	1823	100.0

The registration by states showed, as would be expected, that Massachusetts (and, of course, Boston) contributed the most while the adjacent states came next. The figures were as follows: Massachusetts 1339, Connecticut 133, Rhode Island 126, New Hampshire 82, Maine 52, Vermont 19, out of New England 72.

We were particularly interested in our ability to draw practicing physicians and dentists. A year before the Cancer Committee of the Massachusetts Medical Society, the Massachusetts Branch of the American Society for the Control of Cancer, and the Massachusetts Department of Public Health (the organized profession, the organized public, and organized government) had coöperated in offering to the two professions in Massachusetts a graduate course in cancer*. Two hundred and eleven physicians and 199 dentists attended and some enthusiasm was expressed for future meetings on different subjects. Since it cost the doctors five dollars for three days, and the dentists three dollars (the banquet was the large item of cost) for one day, we felt this showing was not so bad. Therefore, we laid our plans for the Institute with great care. We circularized all the doctors and dentists in New England. We ran the clinics for three mornings. In the afternoon we had speakers whose names alone should have drawn the men as the Harpies' voices drew the crew of Ulysses. One hundred and fifty-nine physicians registered for these clinics and were issued tickets to avoid overcrowding. Thirty dentists so registered. This represents about 0.8% of the doctors of New England and about 0.2% of the dentists. They were divided by states as follows:

Physicians, Massachusetts	131
Dentists, Massachusetts	26
Physicians, Connecticut	7
Dentists, Connecticut	0
Physicians, Maine	3
Dentists, Maine	1
Physicians, New Hampshire	4
Dentists, New Hampshire	0
Physicians, Rhode Island	8
Dentists, Rhode Island	3
Physicians, Vermont	4
Dentists, Vermont	0
Physicians, outside New England	2
Dentists, outside New England	0

Of the physicians 32 or 20% had attended the cancer course, and 20 or 66% of the dentists had so attended.

The attendance at the clinics by subjects is shown on Table II. Evidently there was gate crashing here also, but as some of the subjects were presented at as many as four clinics exact conclusions cannot be drawn. However, the figures give some evidence of the relative degree of medical interest in the various subjects of importance to the health officer.

TABLE II

Dental	145
Venereal Disease	139
Cancer	61
Heart Disease	49
Communicable Disease	38
Tuberculosis	37
Psychiatric	30
Pernicious Anemia	22
Prenatal	16
Nutrition	15
Diabetes	10
Well-child	10
Arthritis	8
Total	580

With the larger group appealed to in a wide variety of subjects why was the medical and dental interest less for the Institute than for the cancer course. Previous to the course there had been some three years of intensive professional and lay propaganda incident to developing our cancer program in Massachusetts. No such barrage had been laid down elsewhere in New England for cancer, nor for the other subjects dealt with at the Institute clinics. Must

*Balch, Franklin G., Bigelow, George H. and Greenough, Robert B.: New Eng. J. Med. 201:165-166, (July 25) 1929.

we undergo the trauma, strain, criticism and execution of wholesale propaganda in each of these subjects to arouse professional interest? God forbid! There must be in these professions somewhere an inherent sense of community responsibility which recognizes the urgency of these matters and will prepare to meet it, without health organizations propagandizing people endlessly into their offices selling a service they frequently are not prepared to give. Is it impossible that the supply should ever anticipate somewhat the demand?

Again it is suggested that since the clinic program was buried in the mess of our health institute program, professional men threw it in the wastebasket without looking further. Of course we saw the great advantage to all in drawing practitioners into meetings with health workers. If they see that their mutual interests are one, much current misunderstanding would be allayed. But this is perhaps Utopian. The natural state of man is perhaps to vituperate from a distance and to refuse to meet face to face. It is certainly much less disillusioning!

Again perhaps there are already too many professional meetings and to add another may be a menace to the public health. Be that as it may, we feel that through the judicious use of clinics on subjects of importance to the public health, the health officer may make as marked contribution to progress in his particular field as through some of the newer variants on the bearded lady who holds the attention of the gaping yokel only just long enough to sell him a razor. But in this regard at the Institute we failed signally.

The financing of these matters is becoming a horror to many an administration with the pressure to guarantee in advance the cost of an eternally busier and better show. This aspect of such meetings is often never talked of in the sunlight and yet is more frequently the cause of lingering resentment than any other. Therefore, our experience may be of interest and is surprising, we think, in the fact that such extensive meetings of such inherent quality can be organized for so little. The entire cost (exclusive of special group lunches and dinners) was $3694.73. The receipts from registration and banquet tickets were $2,050.50. The contribution from the budget of the Massachusetts Department of Public Health was $1,644.23. Certainly not high for the intensive informing, by the wide variety of fundamental matters, of over 2,000 persons. The expenses included travel for remote speakers, hotel, publicity, printing, postage, music, flowers, some stenographic service, some transportation of patients to clinics, express, buttons and miscellaneous. We were left with no direct or indirect obligation to any commercial concern which is a vicious tendency in the health show business today.

SUMMARY

1. The Eighth New England Health Institute in Boston was attended by 1823 registrants and perhaps 500 "gate crashers".

2. There were 30 coöperating agencies and 20 sections of which 6 were new (Adult Hygiene, Dental, Hospital, Medical, Nursing, and Public Health Social Work). The "Nursing" was clinical as contrasted with public health nursing, which was a conventional section, of course.

3. There were 118 meetings crowded into 27 hours in four and one-half days, besides luncheons and dinners.

4. There were 15 clinics for physicians only and 9 clinics for dentists only during three of the mornings in the hope of drawing these vital clinical groups into our meetings.

5. Only 159 doctors and 30 dentists registered for these clinics, or about 0.8% and 0.2%, respectively, of these two professions in New England to whom programs were sent. Various explanations for our inability to rouse more interest as evidenced by better attendance have been discussed.

6. The entire cost of the Institute, exclusive of special group meals, was $3,694.73. The receipts were $2,050.50. The Commonwealth of Massachusetts through its Department of Public Health, therefore, contributed $1,644.23. There were no disquieting commercial obligations incurred.

THE EFFECT OF CALCIUM IN PRURITIC SKIN AFFECTIONS; WITH ESPECIAL REFERENCE TO CALCIUM GLUCONATE*

BY J. G. DOWNING, M.D.,† AND A. BLUMENFELD, M.D.†

CALCIUM has long been employed empirically in the treatment of many dermatoses, especially in the management of inflammatory edemas.

Tainter and van Deventer[1] employed calcium in experimental irritative edemas and found antiedemic action wanting despite increases of from 100 to 400% in the serum calcium. Antiedemic action, whenever apparent, was gained at the expense of circulatory collapse.

Cantarow and Gordon[2], in reviewing experimental observations, indicated that calcium was

*Calcium gluconate kindly furnished by the manufacturers.
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TABLE 1

Case No.	Age	Sex	Diagnosis	Dosage and Administration	Remarks
150308	38	F.	Dermatitis medicamentosa (Luminal).	2 intramuscular injections in 3-day interval. 7 days of oral calcium, average dosage.	Itching gone after second injection; faint erythema only trace of rash; took luminal all the time.
178411	56	M.	Dermatitis medicamentosa (Coal-Tar).	4 intravenous injections.*	Considerable improvement after first. Discharged cured after fourth.
15433	35	F.	Dermatitis venenata (after treatment for scabies). Sulphur.	5 intravenous injections. Oral calcium.†	Itching stopped after fourth injection; then recurred, not as bad as before; ? scabies still present.
P. P.	24	M.	Dermatitis venenata (after treatment for scabies). Sulphur.	3 intramuscular injections (at irregular intervals).	Hadn't slept for 2 nights because of itch; single injection conducive to sleep, effect lasting eight hours; other injections had same effect.
P. P.	70	F.	Dermatitis venenata (Phenol).	3 intramuscular injections given A. M. and P. M. Oral calcium; Corn starch powder locally.	Phenol lotion prescribed for first degree burn; condition aggravated; phenol ointment applied that made condition worse. Developing into typical dermatitis venenata. Rapid improvement within 48°.
85353	30	M.	Dermatitis; hands and forearms.	4 intravenous injections.	A recurrence of condition that cleared before after long period of treatment; lesions healed and itching gone.
190215	42	F.	Lichen planus.	9 intramuscular. Oral Calcium.	Discharged with pigmented lesions; very little itch; slight infiltration in some lesions.
43444	55	F.	Lichen planus.	10 intramuscular injections. Oral Calcium.	No itching after 3rd injection. Recurrence of itching but milder; lesions less infiltrated.
187880	63	F.	Lichen planus.	One intravenous. Total seven intramuscular. Oral Calcium.	Itching greatly relieved; hasn't reappeared.
183812	20	F.	Sub-acute Urticaria.	5 intramuscular injections. Oral Calcium.	Improvement after 3rd treatment. "Itching and swelling not as bad." Hasn't returned for treatment.
189982	49	F.	Sub-acute Urticaria.	6 intramuscular injections. Oral Calcium.	Marked improvement after third treatment. After sixth, complained of little itch on face.
71904	30	F.	Chronic Urticaria.	3 intravenous injections. Oral Calcium.	Itching all gone, first time in months; able to sleep now; itching recurred when treatment was stopped and relieved with more calcium.
183192	43	F.	Urticaria.	5 intramuscular injections. 2 intravenous injections. Oral Calcium.	Better than ever. Slight itching, left arm.
171785	20	M.	Chronic Urticaria.	One intravenous injection. Took 200 g. orally.	Wheals still appearing despite treatment with oral calcium; condition never itched.
181794	24	F.	Urticaria.	One intravenous, 2 intramuscular injections.	Itching all gone; no lesions; had condition one month before treatment.
180010	17	F.	Seborrhoeic dermatitis.	8 intravenous injections. Oral Calcium.	No improvement.
P. P.	39	F.	Dermatitis venenata (origin unknown).	3 intramuscular injections, daily.	For 2 nights had been unable to sleep until helped by first injection; process abated with other injections.
181311	47	F.	Pruritus universalis (Neurotic).	3 intravenous injections and 5 intramuscular. Oral Calcium.	Itching gone after 5th treatment, to return when she drinks coffee, but never as severe as before treatment.
183619	71	M.	Pruritus senilis.	4 intramuscular injections. Oral Calcium.	Much better now than during last 7 mos., mild recurrence of itching. Hasn't returned for treatment.
27774	70	M.	Pruritus senilis.	6 intramuscular injections. Oral Calcium.	Itching considerably less than ever before during year.

*Unless stated otherwise, injections were given every other day.
†Average dose, 3 t.i.d. before meals, with water (drachm, three times a day).

more effective in preventing the full development of inflammatory edema than in influencing an edema already apparent.

Greenbaum[3] found normal or increased serum calcium levels in all but one of 63 cases of urticaria and concluded that the use of calcium in urticaria lacked scientific basis.

The relationship of calcium to cutaneous irritability evidently exists, however. Klauder and Brown[4], in their investigations, correlated high calcium and low potassium values with diminished irritability and showed the converse to be true. Their investigations have since been confirmed[5, 6].

A scientific basis for the use of calcium in pruritic dermatoses was suggested by Pottenger[7], who considered the drug a sympathetic nerve stimulant. He attained good results with it in eczema and other related affections. The outstanding effect was the cessation of itching. Urticaria angioneuroticedema and serum rashes, classified by him as phenomena of parasympathetic hyperirritability, were relieved by calcium. Evidently, the relief ascribed to the calcium was the resulting subsidence of the itching and not the direct control of the edema.

Other investigators deemed calcium an important element in its relationship to the sympathetic nervous system. Burgess[8] expressed the opinion that endocrine dysfunction causes diminished available calcium in tissues with consequent sympathetic irritability and the production of skin lesions. He found calcium, used with parathyroid, to be beneficial in indicated cases. Pulay[9] found the drug efficacious in chronic urticaria of the vagotonic type. Billigheimer et al[10] observed lowering of the serum calcium with sympathetic stimulation.

Karrenberg[11] employed calcium gluconate, a recently formulated calcium preparation, exclusively for its effect in allaying itching and dispelling the sensations of tension and burning in acute exudative processes.

This preparation is the calcium salt of gluconic acid, an oxidation product of glucose, and contains 9.3% of calcium element. The drug is suitable for oral, intravenous, and intramuscular administration. For the latter routes a supersaturated 10% solution in ampoules is available.

Its advantages over other calcium preparations, especially the chloride, are important ones. Schamberg and Brown[12] in recent studies have shown the dangers of acidosis and nephritis resulting from the cumulative effect of large successive doses of calcium chloride. In addition to the major objections, tissue-irritability and nausea, frequently obtaining with the use of calcium chloride, have been overcome with the use of calcium gluconate. These authors deemed calcium gluconate apparently relatively harmless and superior to the lactate and the chloride.

We have used calcium gluconate in 20 cases of itching dermatoses with good results (Table 1). The cessation or alleviation of itching and tension was the most striking effect and occurred a variable number of hours after the administration of the drug, depending on the type of dermatosis. Best results were obtained in conditions due to chemicals used internally or externally (See Table 1: Sulphur Dermatitis, Coal Tar Dermatitis, Luminal Dermatitis, and Phenol Dermatitis). Attention is especially called to a case of luminal dermatitis that benefited remarkably; contrary to custom, the luminal was not discontinued and the patient became free from itching and inflammation. Three cases of lichen planus with intense itching improved after several injections. The chief effect was the amelioration of the itching; the lesions became less infiltrated, but this was probably a secondary effect since the traumatic influence of scratching was mitigated.

MODE OF ADMINISTRATION AND DOSAGE

The drug was administered orally, intravenously, and intramuscularly, the latter being the preferred injection route. Intramuscular injection affords protracted effect of calcium and obviates the acute sensation of warmth and flushing that accompanies its intravenous introduction. Relief of very brief duration followed intravenous administration, while that obtained by intramuscular administration lasted 6 to 8 hours after a single injection in some cases. The most efficacious method of employing the drug is by daily injections of 10 c.c. of the 10% solution. Oral administration of a teaspoonful of the powdered form, three times a day, should supplement an injection route. In acute cases two injections a day, given eight hours apart, are necessary. Injections should be given slowly, independent of the route chosen; apprehension over the production of pain is needless since the drug is innocuous to tissues.

REACTIONS

The common reaction accompanying intravenous injection consists of a feeling of warmth pervading the system gradually, flushing, slight dizziness and a mild acceleration of the pulse rate. Syncope occurred once and was due to the injudicious intravenous injection of a tired, overworked laborer. Intramuscular injection is comparatively free from reaction. A slight feeling of warmth may become evident to the patient several hours after injection.

COMMENT

Calcium was formerly employed extensively in the management of inflammatory edema, but its chief value now tends to be the alleviation of itching and tension.

Calcium gluconate, a form of calcium superior to other calcium preparations, was used in inflammatory dermatoses with noticeable relief of itching and tension.

Best results were obtained in dermatoses with itching due to chemicals used either internally or externally, such as dermatitis medicamentosa and dermatitis venenata.

REFERENCES

1 Tainter, M. L. and van Deventer, W.: Antiedemic actions of calcium in experimental irritative edemas. J. A. M. A. 94:546, (Feb. 22) 1930.
2 Cantarow, A., and Gordon, B.: Effect of parathyroid extract on certain factors underlying production of edema. Arch. Int. Med. 42:933, (Dec.) 1928.
3 Greenbaum, S. S.: Blood serum calcium in urticaria. Arch. Dermat. & Syph. 16:553-562, Nov. 1927.
4 Klauder, J. V. and Brown, H.: Experimental studies in eczema. Arch. Dermat. & Syph. 11:383, (March) 1925.
5 Toyama, I. and Hayashi, H.: Studies on lacquer dermatitis V, Japanese J. Dermat. Urol. 26:1091, (Dec.) 1926.
6 Hayashi, H.: Experimentele Studien uber die Empfindlichkeit der Haut gegen aussere Reize. Ibid. 26:721, (Aug.) 1926.
7 Pottenger, F. M.: The relationship of ion content of the cell to symptoms of disease, with special reference to calcium and its therapeutic application. Ann. Clin. Med. 2:187-196, (Nov.) 1923.
8 Burgess, N.: Calcium metabolism in certain diseases of the skin. Brit. J. Dermat. 40:279-294, (July) 1928.
9 Pulay, E.: Ekzem und Urtikaria. Urban and Schwarzenberg, Berlin, 1925.
10 Billigheimer et al. (Quoted from Pulay): Ekzem und Urtikaria. Urban and Schwarzenberg, Berlin, 1925, p. 52.
11 Karrenberg, C. L.: Therapeutic use of calcium gluconate in dermatology. Dermat. Wchnschr. 86:540-545, April 21, 1928.
12 Schamberg, J. F., and Brown, H. M.: Some studies of calcium metabolism: discussion of a new therapeutic compound, calcium thiosulfate. Read before the Eighth International Congress of Dermatology and Syphilology. Copenhagen, 1930.

CINCHOPHEN AND ACUTE YELLOW ATROPHY OF THE LIVER*

Report of Two Cases

BY WILLIAM G. WALKER, M.D.†

THAT cinchophen may cause acute yellow atrophy of the liver has been attested several times within the past few years. Sutton[1] reported the occurrence of ascites in a patient who died of acute yellow atrophy of the liver after using cinchophen. Oxyl iodide, which contains 83.3% cinchophen and 16.7% iodine, caused jaundice and death in Anderson's and Teter's[2] patient. Reichle[3] calls attention to the fact that the symptoms of intoxication usually occur late in the course of treatment; he cites the occurrence of jaundice in one of Loewenthal's fatal cases two weeks after the cessation of treatment. Rabinowitz[4] has recently, again, called attention to the fact that many analgesic remedies contain cinchophen or one of its derivatives, and that unless one knows the constituents of a preparation, he may unwittingly prescribe the drug. He further states that toxic effects cannot be prevented by small or intermittent dosage, nor by the simultaneous use of sodium bicarbonate or of large amounts of fluid.

REPORT OF CASES

CASE 1. Mr. R. E. B., aged 43, a laborer, was seen by me October 10, 1929 because of jaundice and coma. Subsequently it was learned that about twenty-four 4-grain cinchophen tablets had been taken by this patient during the third week of the preceding August. The following history was obtained from his wife: He was the father of three children. There had been no miscarriages. He drank an occasional glass of wine. He had always been well and strong until he wrenched his left leg, July 5, 1929; he continued working for nine days, when he was forced to quit on account of pain, which was worse at night.

The illness for which I saw him began October 1, 1929 with loss of appetite. On October 4 he complained that his stomach felt "terrible" and his wife noticed that he looked yellow and ill. Vomiting had been present for one week and the jaundice had deepened. Five days ago he complained that his head felt "terrible". He had been unconscious for two days.

Examination revealed a deeply jaundiced, comatose man who retched occasionally. The optic discs were clear. The pulse rate was 52 per minute. The rectal temperature was 97.6 F. The systolic blood pressure was 160; the diastolic pressure was not recorded. The heart was not enlarged, the rhythm was regular and there were no murmurs. Medium moist râles were heard over the left lower chest, with the patient on the left side. The abdomen was scaphoid and was free from spasm and masses. The bed was wet with urine. A large scar over the outer aspect of the left thigh was ascribed by his wife to an operation performed in childhood because of diseased bone. The urine was deeply bile-stained, and acid; it showed a small amount of albumin, but no sugar; the sediment showed numerous granular casts and one clump of crystals that resembled tryosine.

He was sent to the Brockton Hospital with the diagnosis of acute yellow atrophy of the liver. Here glucose and normal saline were given subcutaneously to no avail, the patient dying in less than twenty-four hours. Before death leucine crystals were found in the urine.

Autopsy, performed on the day of death, revealed a greenish-red liver weighing 850 grams. The lungs, spleen, kidneys, and pancreas were grossly normal. The following report of the microscopic findings was made by Dr. F. M. Hollister: The liver showed many areas with no recognizable parenchymatous cells. In other fields the cells showed granular degeneration with broken, poorly stained nuclei. There was marked proliferation of the bile ducts and there were some areas of hemorrhage. Round cell infiltration was seen around the venules. In the older, degenerated areas, some connective tissue replacement had occurred. The kidney epithelium showed marked granular degeneration. The pathologic diagnosis was acute yellow atrophy of the liver.

After death, the blood Wassermann and Kahn tests were reported 4 plus by one laboratory and negative by another.

CASE 2. Mrs. E. F., aged 59, entered the Brockton Hospital January 28, 1930 because of nausea and progressive jaundice.

Years ago she had been in a sanatorium for pulmonary tuberculosis. There had been no recurrence of this disease.

She had complained of gas, bloating, and a heavy feeling in the stomach, after eating, for two or three years. During the preceding summer a hard, tender bunch in the abdomen "would come and go". She had suffered from arthritis for some time.

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During July, 1929 she took one hundred 7½ grain cinchophen tablets, which relieved the joint pains and caused no distress.

Three weeks before entering the hospital, because of a return of the joint symptoms, she again took cinchophen. Immediately "heart burn", nausea and anorexia ensued. Her stomach felt "knotted up". She, nevertheless, persisted in using the drug until she had taken about thirty 7½ grain tablets. A week from the onset jaundice appeared. Although she became drowsy she slept only in short naps. The jaundice deepened and persistent vomiting developed. Her bowels did not move, even with enemas. When seen the evening of entry she was drowsy and jaundiced. The sclerae were injected. The tongue was moist. The heart was of normal size, of regular rhythm and there were no murmurs. The abdomen was soft and there were no masses, spasm, or tenderness. Diminution of liver dullness was not made out. Rectal examination was negative. The urine at entrance showed no albumin, sugar, nor casts. The hemoglobin was 90% (Tallqvist). The white count was 9,600. The temperature was 98.2° F. She was given subcutaneously 1000 c.c. of 5% glucose in normal salt solution and morphine, grains 1/6. Some of a barium meal given next morning was vomited and a small amount passed through the pylorus, but considerable remained in the stomach after twenty-four hours. The gastric retention was ascribed by the roentgenologist, Dr. L. B. Packard, to pylorospasm. The morning following admission to the hospital, there was slight epigastric tenderness and the area of liver dullness was decreased. An enema resulted in the passage of gas and some fecal particles. The next day the jaundice was deeper, drowsiness persisted, but the vomiting ceased. Leucine crystals were found in the urine. The patient now retained small amounts of glucose by mouth, and this was supplemented by 25% glucose intravenously and 5% glucose in normal saline subcutaneously and by rectum. That night the patient became very noisy and two injections of pantopon, grains 1/6, were required to quiet her. The following day she was in a deep stupor and there was an external squint of the left eye, which disappeared when she was aroused. Medium moist râles were present at the bases of the lungs and there was edema of the back. Sugar appeared in the urine on this day and at times subsequently. It was controlled by small doses of insulin. The respiratory rate fell, at times, to 7 per minute. The patient continued to fail; stupor became more profound, although at times she roused to a noisy delirium. The jaundice deepened until the last day, when it definitely faded. The edema increased. Urine, which toward the end was bloody, and feces were passed involuntarily. During the last twelve hours of life the temperature rose and the respiratory and pulse rates increased. She raised large amounts of yellow sputum. Dullness and harsh breath sounds were found over the right upper back. There was, also, dullness over the left mid-back. Bubbling expiratory râles were heard all over the chest and a tracheal rattle was present. Although the patient was *in extremis* 25 c.c. antipneumococcic serum were given intravenously. Unfortunately the interne who gave the injection failed to precede it by an intradermal test. A reaction occurred and the patient died almost immediately.

At autopsy the liver appeared shrunken and weighed 650 grams. No significant pathology was found in the other abdominal organs, nor in the heart or lungs.

Dr. F. M. Hollister submitted the following report on the microscopic examination of the liver: Many areas were entirely devoid of normal liver cells. All were necrotic and some were invaded by endothelial leucocytes. The connective tissue, sinusoids, and blood vessels were left unchanged, but the bile duct epithelium was markedly proliferated. In other areas the liver cells were atrophied and there was the marked round cell infiltration of a chronic inflammatory process. There was evidence of an attempt at regeneration in other areas. The pathologic diagnosis was acute yellow atrophy of the liver.

COMMENT

We are not able to settle the question of the possibility of syphilis having been present in our first patient. The Wassermann reports were received several days after the death of the patient. The heart and aorta were not opened at necropsy and only liver and kidney tissues were saved. These latter showed no evidence of syphilis. However, as Cabot[5] has said, a positive Wassermann reaction in the presence of jaundice is of slight significance.

It seems that the danger from the use of cinchophen far outweighs any advantage it may have over other analgesic drugs.

SUMMARY

Two cases of acute yellow atrophy of the liver, following the use of cinchophen are reported. Autopsy findings are included.

Toxic symptoms did not appear in one patient until five weeks after the drug was discontinued.

The other patient took 750 grains of the drug six months prior to her death with no discomfort. Symptoms of poisoning occurred immediately, however, when a second course of treatment was started.

REFERENCES

1 Sutton, D. C.: Acute yellow atrophy of the liver following the taking of cinchophen. J. A. M. A. 91:310, (Aug. 4) 1928.

2 Anderson, S. D., and Teter, D. P.: Acute yellow atrophy of the liver following administration of oxyl iodide. J. A. M. A. 93:93, (July 13) 1929.

3 Reichle, H. S.: Toxic cirrhosis of the liver due to cinchophen. Arch. Int. Med. 44:281, (Aug.) 1929.

4 Rabinowitz, M. A.: Atrophy of the liver due to cinchophen preparation. J. A. M. A. 95:1228, (Oct. 25) 1930.

5 Cabot, R. C.: Case Records. Boston M. & S. J. 192:1122, (June 4) 1925.

VERMONT STATE MEDICAL SOCIETY

BRONCHOSCOPY IN THE DIAGNOSIS AND TREATMENT OF CHEST CONDITIONS*

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BRONCHOSCOPY was first introduced in 1897, by G. Killian, who removed a piece of bone from the right main bronchus of a man 64 years of age. Bronchoscopy is a procedure by which a view of the trachea and larger bronchial elements are observed through a rigid metal tube. The bronchi, being elastic and easily displaced, yield readily to the pressure of the tubular instrument, so that the area to be inspected can be brought into a single plane for observation. A big advance in the development of bronchoscopy came when Jackson adopted Einhorn's idea of distal illumination for the endoscopic tubes. This marked the true beginning of bronchoscopy in America.

In the early days of bronchoscopy, bronchoscoping a patient was a difficult and formidable feat. Today, thanks to the efforts of such pioneers as Jackson, Mosher, Ingals, Johnson, Friedberg, Coolidge, Arrowsmith, Yankauer, Lynah, Imperatori and others, in this field, bronchoscopy has become a relatively simple procedure. The fear which is still held by many physicians when bronchoscopy is considered is today unfounded. In the hands of the properly trained and qualified worker, there is neither difficulty nor danger. There is danger in withholding or delaying bronchoscopy in a case that needs it, for this procedure is ofttimes life-saving.

In the past, bronchoscopy has been chiefly known and used for the extraction of foreign bodies from the air passages. Since it has been demonstrated that the bronchoscope makes the altered condition of the bronchi readily accessible to direct vision, bronchoscopy is being used more and more for the diagnosis and treatment of thoracic disease. With this procedure, the location, extent and type of lesion can be readily seen, and a better understanding of the morbid process obtained. Before the employment of the bronchoscope our knowledge of diseased conditions of the bronchial tree was gathered from work done at the autopsy table. More and more the internist, the phthisicist, the thoracic surgeon, and frequently the family physician is taking advantage of the diagnostic and therapeutic possibilities of bronchoscopy.

Occasionally we encounter cases presenting lung symptoms where a diagnosis of pneumonia was made, and later when the symptoms do not suit the original diagnosis the condition is considered as one of empyema, lung abscess or tuberculosis. It is in this type of case that one should suspect the presence of a foreign body. The bronchoscope has a definite place as a diagnostic aid in obscure chest conditions. Physical signs pointing to a partial or total occlusion of a bronchial element should immediately make one think of bronchoscopy. An x-ray shadow in the chest that cannot be interpreted will very frequently be explained with the aid of a bronchoscope. A cough for which there is no apparent basis should be investigated bronchoscopically.

The subject of foreign bodies in the air passages is a very important one, for failure to recognize the presence of a foreign body frequently leads to disastrous results. One is impressed by the fact that the tongue, palate, pharynx and larynx are endowed with sensory nerve endings to inform the individual of the fact that there is something in contact with these structures. His intelligence will be his guide as to whether that something should be permitted to pass along down, or whether he should intercept it. Infants and young children have not sufficient intelligence for this. Babies come by their first knowledge in many instances by imitating their elders. Therefore, if a parent or older child places something in his mouth the baby may do likewise. More than fifty per cent. of the foreign bodies which the writer has removed have been in children under two years of age. Children under three years of age should not be given nuts or grapes to eat, because their molars have not yet appeared and therefore they cannot chew these substances properly.

The site of lodgment of a foreign body in the respiratory tract is dependent upon its size and shape. A coin or piece of egg shell or safety pin will lodge in the larynx, while a watermelon seed, bean or bead will lodge in the trachea. And a piece of peanut or bone, nail, screw or tack, will lodge in the main bronchus or one of its branches. A small nail or straight pin will usually enter the finer bronchial branches. A majority of inspired foreign bodies, however, are small and find their way into the main bronchi or their branches.

To wait for the spontaneous expulsion of a foreign body is inviting danger. A very small percentage of foreign bodies are expelled spontaneously but there is no way of telling in which case this will occur. Organic substances capable of decomposition cause severe local reaction with ensuing bronchopneumonia which is frequently fatal. Metallic foreign bodies which

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Read before the Vermont State Medical Society at its 117th Annual Meeting, at Burlington, October, 1930.

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do not disintegrate or decompose cause local swelling and edema with a consequent obstruction to the passage of air into the lung. There is also obstruction to the passage of air and of secretion out of the lung in such cases. The trapped secretion if not released becomes infected and suppuration develops. Early removal of a foreign body therefore is essential for it insures a healthy functioning lung. If recognition and intervention is delayed, permanent destruction of tissue may take place which may cause the patient to become a chronic invalid, and frequently leads to an untimely termination.

Occasionally we encounter cases in which a straight pin or a fine nail has been lodged in the periphery of the lung for many years without causing symptoms. These foreign bodies are evidently sterile when aspirated and have caused no local disturbance. On the other hand a child has been seen to die of asphyxia due to a filling of all the bronchial elements with fluid as a result of the aspiration of a piece of lollypop candy. This occurred within twenty minutes of the accident.

X-ray study is always indicated and is invaluable in all foreign body cases. It should never be omitted. The symptoms of choking, coughing, wheezing coming on suddenly in a healthy individual should make one think of foreign body. Frequently the patient will complain of a sense of oppression in the region of a main bronchus when a foreign body is lodged there. He may have breathlessness which increases with exertion. Any movement which causes a foreign body to change its position will bring on a paroxysm of coughing.

The diagnosis of the presence of a foreign body in the lung is dependent upon a history of the individual having choked upon something that he had in his mouth together with physical signs, x-ray findings and symptoms. Physical signs pointing to partial or complete obstruction in a given part of the lung during either inspiration or expiration, or both, are evidence of something being lodged in a bronchus. McCrae has called attention to the fact that one can find some diminished expansion and some fine râles even in cases of small foreign bodies which are not obstructive.

A foreign body must be differentiated from bronchopneumonia and empyema. In the first condition there is tubular breathing, and increased vocal fremitus which do not occur in the presence of foreign bodies. In empyema there is shifting dullness, and the antecedent history of pneumonia or of pleurisy with effusion. Foreign bodies lodging in the trachea or main bronchi frequently cause asthmatic type of breathing. This must be borne in mind.

The following cases are of interest:

CASE 1. A. D., female, age 16 months, was admitted to the pediatric service with the following history: Six weeks ago she was given peanuts by an older child. She choked and became blue. Several small pieces of peanut kernel were removed from her mouth by her mother, and no further attention was paid to the event. About two weeks later the child developed a cough which was diagnosed as bronchitis. This was not considered of special importance until fifteen days before admission when there was considerable sweating and a questionable chill. The temperature was elevated, the child became increasingly drowsy and her condition was serious. Cough became a common symptom and at times a foul odor of the breath could be detected. On admission the child was acutely ill, dyspnoeic and coughing frequently. She was pale, dehydrated and weak. There was a distinct foul odor to the breath. Examination of the chest revealed dullness over the entire left chest. Distinct bronchial breathing was noted and in places the breathing was cavernous. Showers of bubbles were heard throughout the left chest. X-ray study

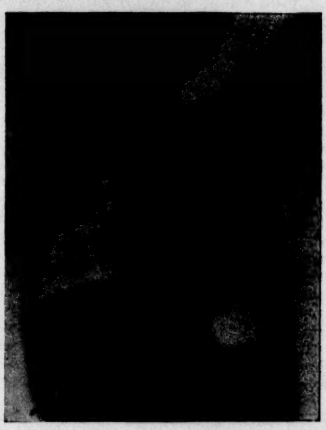

FIG. 1. Case 1. Roentgenogram showing involvement of the entire left lung by an active suppurative process—six weeks after the aspiration of some peanut kernel.

revealed a widespread suppurative process throughout the left lung. The right lung was entirely negative. Bronchoscopy showed a stenosis of the left main bronchus just below the bifurcation of the trachea. Bronchoscopy could not be continued satisfactorily because of the poor condition of the child. The child was becoming rapidly worse, and it was decided to perform a pneumonectomy. This operation was performed by Dr. Neuhof, but the child made an exitus shortly after.

Comments: In this case delayed recognition permitted the aspirated peanut kernel to cause almost complete destruction of the left lung, and subsequently the death of the child.

CASE 2. H. M., male, age 19, was admitted to the medical service, and complained of hemoptysis and weakness of three years' duration. The hemoptysis had been increasing in frequency lately. In the past few months the amount of blood varied from one to twelve ounces. For the past three years the patient would cough in the morning and expectorate about one ounce of foul smelling sputum. Physical examination revealed dullness of the right chest anteriorly from the clavicle to the upper border of the

liver. His condition was diagnosed as tuberculosis of the right upper and lower lobes. It is interesting to note that the medical service expressed the opinion that in view of the persistent hemoptysis and the improbability that the patient would receive any benefit directly from bronchoscopy, this procedure should be postponed. The sputum was repeatedly negative for tubercle bacilli. After forty days in the hospital the patient went home against advice, and was discharged as a case of probable chronic pulmonary tuberculosis. Two months later he returned because of additional hemorrhages. Shortly after admission he was bronchoscoped by Dr. Yankauer, who found the right lower lobe bronchus filled with a mass of granulation tissue, which bled readily. After controlling the bleeding he encountered what appeared to be a broncholith imbedded in this tissue. Upon removal the nucleus of the broncholith was found to be a piece of the shell of a nut. The patient immediately felt that something had happened to his chest. He said that he had not breathed so clearly in three years. He could not recall having aspirated the piece of nutshell.

Comment: A case is cited of a boy of nineteen, who inhaled a foreign body which caused hemoptyses for more than three years. He was thought to have tuberculosis until bronchoscopy was finally performed, and his condition was cleared up by the finding of an unsuspected foreign body.

FIG. 2. Squamous cell carcinoma of the left main bronchus causing a triangular shadow in the left chest. Proven by bronchoscopy and the microscope.

The bronchoscope is a valuable aid in the diagnosis and localization of lung suppuration. It is frequently the best therapeutic method available for these cases. Many lung suppurations can be cured with the bronchoscope when seen early enough. Those which have lasted more than three months could probably not be cured by bronchoscopy.

There are two types of lesions in lung suppurations. There is a lesion which is characterized by the dilatation of the bronchial elements in a given area, and the lesion in which the lung parenchyma is primarily involved. In the latter case a localized abscess or cavity is formed. Lung suppurations frequently follow operations upon the upper air passages such as tonsillectomy, tooth extractions or a sinus operation. This condition may also follow influenza, pneumonia, whooping cough, foreign body aspiration, neoplasm of the lung or bronchus, submersion, various operations in remote parts of the body, intravenous medication, and many other conditions. Until the bacteriology of the lung abscess is definitely established, our understanding of this condition will not be complete.

Acute lung suppurations are recognized by foul smelling expectoration associated with fever and malaise, pain in the chest and cough. In young children one must depend upon the foul odor of the breath, for they swallow the foul exudate and do not expectorate it. Physical signs are not constant and depend upon the location and size of the process together with the degree of fullness or emptiness of the cavity.

The end result in a given case will depend

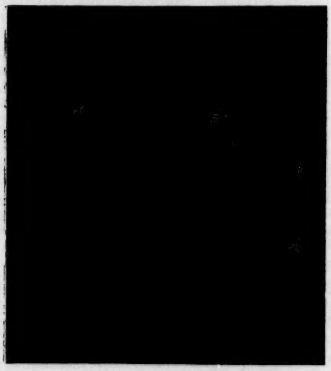

FIG. 3. Acute suppuration right lower lobe—localized abscess type. Recovery after one bronchoscopic treatment.

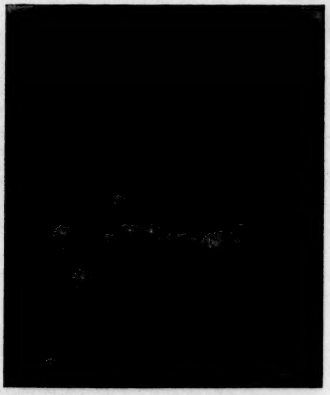

FIG. 4. Same patient ten months after treatment.

upon the size and location of the abscess and the virulence of the process together with the treatment that is accorded it. If a foreign body is the cause of suppuration, early removal insures a cure. Fulminating cases of lung suppuration usually terminate fatally regardless of what is done for them.

A spontaneous cure results in forty to sixty per cent. of cases. We cannot by any means at hand tell which will recover spontaneously. The bronchoscope is of value in these cases because a bronchoscopist can attack the suppurative area through its communicating bronchial branch. He can differentiate localized abscess and suppurative bronchiectasis, and can exclude the presence of a foreign body or neoplasm. In chronic cases strictures can be dilated and obstructing granulations can be removed. The exudate can be aspirated from the diseased area and the offending organism can be ascertained by culture. Irrigation can be carried out where indicated. In chronic forms of lung suppuration we can hope for temporary alleviation of symptoms. Bronchoscopy may help these patients for a few hours, or one or two days, occasionally for a longer period of time. The chronic cases are essentially surgical problems and the surgeons are aided greatly by the localization of the lesion which bronchoscopy affords. Where a localized abscess exists, surgery offers a hope for relief. Where there are multiple bronchiectatic cavities, situated on either side of the chest, surgery is not employed, and we relieve the patients as much as we can by periodic bronchoscopic treatments.

From the standpoint of early diagnosis there is no one single procedure of as much value in carcinoma of the lung as bronchoscopy. The importance of this diagnostic procedure is increased by the fact that a majority of pulmonary malignancies originate in the bronchial tree. When seen by the bronchoscopist the average case has so extensive an involvement that surgery is out of the question. And surgery, which implies radical removal, is the only hope we have of permanent cure. Recently we have been implanting radium seeds into bronchial carcinoma with at least some delay in the growth of the neoplasm. The roentgenographic study will not reveal an early bronchial growth, while bronchoscopy demonstrates by direct view the condition to be dealt with. A non-productive cough which gradually increases in severity is sufficient indication for bronchoscopy with the prospect of finding a carcinoma.

Patients with hemoptysis and no evidence of lung suppuration or of tuberculosis of the lung should be investigated bronchoscopically for early carcinoma.

Lung carcinoma may be divided into two main groups. In the first group are those cases whose symptoms direct the examiner's attention to the chest. The second group comprises those cases in which extrapulmonary metastases cause symptoms far removed from the chest. Bronchial carcinomas of the first group usually complain of cough with or without dyspnoea and hemoptysis. There is loss of weight, but this may be delayed. Pain in the chest is often seen. X-ray examination is frequently helpful.

The following two cases are cited to illustrate bronchial carcinoma, and the difficulty one may have in recognizing this condition.

CASE 3. M. F., female, age 49, was admitted to the medical service because she complained of a hacking cough, occasional blood streaks in her sputum, and discomfort in the right chest and shoulder for the past two and a half years. Six months ago she noticed that her sputum had a foul odor. At the same time she noticed that her fingers were clubbed. She had maintained her weight during the period of her illness. She had received treatment in a hospital for abscess of the lung a few months before. The physical signs were dullness at the right base, decreased breath sounds and voice sounds in this region and occasional moist râles. X-ray revealed a small area of consolidation in the region of the right lower lobe with evidence of slight pleural thickening in the interlobar fissure. The roentgenologist reported that it was impossible to differentiate bronchopneumonia and a suppurative lesion. Bronchoscopy performed shortly after revealed an annular growth of granular appearance. A specimen was removed which the pathologist reported as adenocarcinoma.

CASE 4. M. G., age 45, was admitted to the neurological service, February 19, 1929, and died eight days later. His illness began seven months before with sharp substernal pain, which disappeared at the end of two weeks. Shortly after this he developed paresthesias, weaknesses, atrophies, and tenderness of the lower extremities. He gradually grew worse, finally developing a condition of total paralysis. Nine weeks before admission he had severe headache, drooping of the facial muscles, difficulty in swallowing and speaking, and weakness of the upper extremities.

The findings were:

1) Deep reflexes diminished in the upper extremities, absent in the lower extremities, and absent abdominal reflexes.
2) Atrophy and paralysis of the lower extremities.
3) Tenderness of nerve trunks.
4) Diffuse radicular sensory changes.
5) Right pupil larger than the left; reaction sluggish.
6) Weakness of left internal rectus muscle.
7) Bilateral facial paralysis.
8) Mild fifth nerve palsy of both sides.
9) Absent pharyngeal reflex, swallowing reflex lost and bulbar speech, for two days before exitus.
10) The bladder and rectum were incontinent for six weeks.
11) Area at the right base of the lung suggesting consolidation.

The spinal fluid was negative.

The patient went downhill rapidly and died.

At autopsy a small carcinoma was found in a main branch of the right lower lobe bronchus. Miliary metastases to the brain and spinal cord were demonstrated.

Comment: This patient had no symptoms referable to his chest until just before he terminated. At autopsy a small bronchial carcinoma, with miliary metastases to the structures of the central nervous system, was encountered.

At times a question arises as to the exact state of affairs in the bronchial tree or one of its elements. In such a case mapping of the bron-

chial tree will reveal small or large dilatations and irregularities. It will also show the relation of a foreign body or an extrabronchial growth of the area of the lung being studied. The writer employs a special catheter with which he

FIG. 5. Showing the value of lipiodol in demonstrating bronchiectatic cavities behind the heart.

introduces lipiodol or a bismuth and oil mixture through the larynx after a preliminary cocainization. This technique is especially valuable to enable one to demonstrate the extent of a suppurative lesion and for mapping lesions behind the heart.

Conditions of the bronchial tree too numerous to mention have been encountered by bronchos-

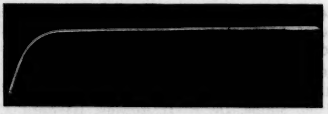

FIG. 6. Author's lipiodol introducer, showing catheter on stylet.

copists. Among the less frequent ones are various types of ulceration and benign neoplasms.

One cannot urge too strongly the necessity of referring for bronchoscopy those patients who have obscure chest conditions. Bronchoscopy has saved many lives that could not be saved in prebronchoscopic days. The coöperation of all those whose privilege it is to treat pulmonary cases is essential to give those who may need it the benefits of properly performed bronchoscopy.

MISCELLANY

VERMONT DEPARTMENT OF PUBLIC HEALTH

DECEMBER, 1930

Diseases reported during the month, as shown by the accompanying tables, represent an incidence rather lower than usual for this time of the year. There were no serious epidemics in the state, the nearest approach being in Northfield where chicken pox and measles are prevalent. Cases of chicken pox are reported from ten counties, but the disease is of a mild type and causes little apprehension. Cases occurred as follows: chicken pox 219, diphtheria 15, measles 30, mumps 7, septic sore throat 3, scarlet fever 29, smallpox 1, typhoid fever 5, undulant fever 2, whooping cough 57 and tuberculosis 10.

Examinations made at the Laboratory of Hygiene are classified in the following manner:

Examinations	
For diphtheria bacilli	213
For Widal reaction of typhoid fever	53
For tubercle bacilli	218
For evidence of syphilis	411
For gonococci in pus	139
Of blood for contagious abortion in cattle	150
Of water, chemical and bacteriological	51
Of water, bacteriological	142
Of milk, market	173
Of milk, submitted for chemical only	1
Of milk, submitted for microscopical	0
Of foods	12
Of drugs	0
For the courts, autopsies	1
For the courts, miscellaneous	30
Other miscellaneous	55
Autopsies to complete death returns	2

In the Communicable Disease Division 34 cases of gonorrhea were reported, sixty-two cases of syphilis, 408 Wassermann outfits and 157 slides for smears were sent out.

The Poliomyelitis After-care Division reports 58 patients seen, 68 home visits made, 1 plaster cast removed, 24 new pieces of apparatus fitted, 9 pieces of apparatus altered or repaired, 16 orthopedic corrections made to shoes, 6 patients admitted to the Fenway Hospital in Boston and 5 patients discharged from the Fenway Hospital in Boston. The vocational worker of this division visited 20 patients. Sales were made amounting to $155.77.

The State Advisory Nurse of the Maternity and Infancy Division visited several towns during the month, speaking before County Farm Bureaus on pre-school clinics and before women's clubs.

OCTOBER, 1930

(DELAYED REPORT)

The condition of water supplies in the state has caused a great deal of apprehension this month on account of the extremely low water and the possible

necessity of using auxiliary supplies. The engineer and the chemist have been kept busy on these subjects and investigating possible new sources. So far as known, no trouble has developed at any point from using unsafe water, but unless a large amount of rain falls before the ground freezes, there will be potential danger for several months. An encouraging feature in the situation is that many towns have finally been aroused to the point where they are taking active steps to secure control of supplies which may be used in cases of emergency.

Cases of communicable diseases reported during October are as follows: chicken pox 95, diphtheria 7, measles 10, mumps 4, poliomyelitis 9, scarlet fever 31, smallpox 2, streptococcic sore throat 1, typhoid fever 3, undulant fever 2, whooping cough 140 and tuberculosis 8.

There were 1654 examinations made in our laboratory classified as follows:

Examinations	
For diphtheria bacilli	203
For Widal reaction of typhoid fever	51
For malarial parasites	0
For tubercle bacilli	246
For evidence of syphilis	386
For gonococci in pus	141
Of blood for contagious abortion in cattle	111
Of water, chemical and bacteriological	79
Of water, bacteriological	158
Of milk, market	147
Of milk, submitted for chemical only	19
Of milk, submitted for microscopical	21
Of foods	3
For the courts, autopsies	11
For the courts, miscellaneous	27
Of animal heads for evidence of rabies	1
Other miscellaneous	48
Autopsies to complete death returns	2

The Division of Communicable Diseases received reports of 52 cases of gonorrhea and 43 for syphilis. Four hundred and ninety-seven Wassermann outfits were sent out from this Division and 276 slides for smears.

The Division of Poliomyelitis After-care held its fall clinics at the usual centers, with an attendance of 160 patients. Seven patients were admitted to the Fenway Hospital in Boston and five discharged from this hospital. Twenty-seven pieces of apparatus were fitted, 19 orthopedic corrections made to shoes and 9 pieces of apparatus altered or repaired. The vocational worker of this Division reports 20 patients visited. Sales made by the vocational worker during this month amounted to $218.93. The fifth Craftsmen-at-Work Exhibition was held in Boston for several days, starting October 28.

The State Advisory Nurse of the Maternity and Infancy Division visited 11 towns, attending county farm bureau meetings, women's clubs conferences and clinics in the interests of this Division.

THE NEW ENGLAND MEDICAL COUNCIL

The executive committee of the New England Medical Council met at the Harvard Club in Boston, November 21, 1930, at 11 o'clock A. M.

Present: Drs. Bryant, Blumer, Hyatt, Parker and Bowers.

President Bryant called for opinions with respect to persons who would be interested in considering the subject of Industrial Medicine as discussed at the last meeting of the Council and formulating a report thereon.

The committee selected by the President following the discussion consists of Dr. Thomas W. Luce of Portsmouth, New Hampshire (82 Court Street), Dr. G. E. Young of Skowhegan, Maine and Dr. R. L. Rowley of Hartford, Connecticut (79 Elm Street). Dr. Parker suggested the advisability of legislation which would give protection to the attending physician who might be called to attend automobile accident cases.

Dr. Bryant recommended that steps be taken to secure recognition of the New England Medical Council as a representative body to be included in the New England Council, an organization which meets four times each year and which includes the Governors of the several New England States with the suggestion that the New England Medical Council may attend one session a year of the New England Council and take such part in the deliberations as may have bearing on problems of health and the interests of the medical profession.

The President, Dr. Bryant, was authorized to ask the coöperation of the Maine delegates to the New England Council in bringing about this plan and report at the next meeting.

A letter from Dr. Blumer in which he referred to the desirability of further discussion of malpractice suits was presented by the Secretary and it was voted that this be the principal subject for discussion at the next meeting of the Council in February, 1931.

It was voted that this meeting be held in Boston not later than the second week in February.

The Secretary was directed to invite a representative of the several insurance companies doing business in New England.

The Secretary was instructed to invite Mr. Herbert Locke of Augusta, Attorney for the Maine Medical Association, to present a paper on Malpractice.

The following named persons were suggested to discuss the paper by Mr. Locke: Dr. E. G. Abbott, Portland, Maine, Dr. R. L. Rowley, Hartford, Connecticut, Dr. F. G. Balch, Boston, Massachusetts, Warren R. Austin, Burlington, Vermont, and Frank W. Sulloway, Concord, New Hampshire.

The subject of nominations of officers for the ensuing year to be submitted to the Council for the next meeting and the following names were selected to be presented by Dr. David Parker:

For President: Dr. George Blumer.
For Vice-President: Dr. W. G. Ricker.
For Secretary-Treasurer: Dr. W. P. Bowers.
For Executive Committee: Dr. B. L. Bryant, Dr. F. T. Fulton, Dr. D. E. Sullivan.

Adjourned for luncheon at 1 P. M.

Subsequent to the meeting, the President selected February 12, 1931 as the date for the next meeting.

EXTRACT FROM THE BY-LAWS OF THE NEW ENGLAND MEDICAL COUNCIL RELATING TO THE EXECUTIVE COMMITTEE

The executive committee shall arrange for the program of the meetings and invite such guests as may be nominated by the President.

A report of the proceedings of every meeting shall be submitted to the President of each of the state medical societies represented in the Council.

An amendment to the by-laws will be submitted to the meeting by the New England Medical Council to be held in Boston, February 12, 1931, which will provide for representation on the executive committee by each of the New England states.

COUNTY SOCIETY NOTES

Chittenden County

Dr. Bisson, who recently moved to Montpelier, has transferred to the Washington County Society.

Dr. A. H. Gordon of Montreal spoke at the December meeting. His subject was "The Problem of Precordial Pain."

At the January meeting a Davis & Geck motion picture was shown entitled "Traumatic Surgery of the Extremities."

Rutland County

The regular winter meeting of the Rutland County Medical and Surgical Society was held on January 13, at the Berwick Hotel. A steak dinner was served, following which the business meeting was called to order by the President, Dr. G. G. Marshall. Dr. William McNamara of Fair Haven was elected to membership.

The speaker of the evening was Dr. J. A. Anderson, internist, formerly associated with the Mayo Clinic, and now of the Dartmouth Medical College, who spoke on the diagnosis and treatment of goitre. A lively discussion, led by Dr. Bellerose, followed Dr. Anderson's talk.

Windham County

The Annual Meeting of the Windham County Medical Society was held at the Valley Fair Grounds in Brattleboro September 28, 1930. Seventeen members and six guests were present. Previous to the calling to order of the business meeting a clambake, which was greatly enjoyed and for which the committee responsible received due credit, was served to the members and guests. Immediately following the "Bake" the meeting was called to order on the Grandstand, Dr. W. D. Bowen in the Chair. After several matters of routine business had been disposed of, Dr. Anderson proposed for membership the names of Dr. John R. Malloy of Brattleboro and Dr. O. V. Heffion of Jamaica. These were passed by the Censors and duly elected.

Dr. Bowen appointed as a Nominating Committee, Doctors Anderson, Stevenson and Aldrich who brought in a list of officers to serve for the coming year. There being no further nominations the Secretary was instructed to cast one ballot and they were declared duly elected as follows:

President—Dr. George B. Hyde, Wilmington.

Vice President—Dr. Clara C. Leach, So. Londonderry.

Sec.-Treas.—Dr. A. D. Sutherland, Brattleboro.

Delegate for 1 year—Dr. W. D. Bowen, Bellows Falls.

Censors—Dr. O. V. Heffion, Jamaica; Dr. E. L. Tracy, Brattleboro; Dr. A. C. Black, Brattleboro.

Auditor—Dr. J. H. Blodgett, Bellows Falls.

Dr. Blodgett stressed the importance of the delegates attending the State Society meetings or appointing a substitute.

DEATH

DR. JOHN MITCHELL GIBSON

Dr. John M. Gibson, for many years a practitioner in McIndoes Falls, died on December 29, at the home of his daughter, Miss Florence Gibson, in Berea, Ky.

Dr. Gibson was born in Rockwood, Ont., June 7, 1862. He attended the public schools of Rockwood and Elora, Ont. Several years later he entered the University of Vermont College of Medicine, receiving his degree in 1888. After serving his internship in Winchendon, Mass., the rest of his medical life was spent in McIndoes, excepting five years in Lisbon, N. H.

He was a Republican in politics and served his town officially in different ways. He was always a generous supporter of any project which was of benefit to his home town.

He was a member of the Vermont State Medical Society and the American Medical Association. Fraternally he was an Odd Fellow and Knights of Pythias and was a member of the Congregational church. He married Clara Dunnett of Peacham, who died about two years ago. Dr. and Mrs. Gibson are survived by three children, Florence I., John M., and Alexander D.

NEW HAMPSHIRE MEDICAL SOCIETY

A CASE OF UNDULANT FEVER*

BY H. C. PICKWICK, M.D.†

UNDULANT fever or Malta fever is an infectious disease, a bacteremia, caused by the Brucella abortus or Brucella melitensis.

CASE REPORT

On July 1, 1929, a man 70 years old came into my office complaining of general weakness, anorexia, left sacro-iliac pain, left sciatic neuritis and a surprising afternoon rise in temperature (102 degrees).

The fact of importance in his past history was that he had had the abortus infection in his herd of cattle.

PHYSICAL EXAMINATION

The head, eyes, and ears were essentially negative. The nasopharynx showed a mild inflammation.

Chest: The lungs were negative.

The heart was enlarged; sounds distant and regular with a soft systolic murmur over the apex and mitral area. The patient showed dyspnea on exertion, a blood pressure of 146/75 and slight arteriosclerosis.

Abdomen: A slight abdominal distention with slight epigastric tenderness was found. The gall-bladder was not visualized by the Graham test.

X-ray report: "Plain plate of the abdomen does not show the kidney outlines distinctly. There is some sclerosis of the lower lumbar spine and what appears to be a fusion of the third and fourth lumbar vertebrae on the right side. There is no evidence of calculi. Plain film of the gall-bladder region shows no definite evidence of pathology. A barium meal shows a normal esophagus. The stomach is normal in shape and position. Peristalsis is normal; under the fluoroscope the waves pass over the sphincter. In the films, the prepyloric area is not filled out well. The duodenal cap is normal. Examination after six hours shows the stomach to be empty. The head of the meal is in the cecum. Most of the meal is in the small intestine. The 24 hour plate shows the meal from the cecum to the rectum in irregular masses. A barium enema filled the colon very slowly and with marked distress to the patient. There were massive contractions which expelled the enema and the cecum could not be filled for a long time, but it was finally and fairly well filled. In the film, however, it is entirely empty, apparently due to spasm. The colon is smooth, except for areas of sharp contraction, but is not dilated. After evacuation there is a small amount of barium in the ascending colon. The rest of the colon is empty. Repeated barium meal shows a normal stomach, and the antrum well filled out. The cap filled and emptied normally."

Genito-Urinary Tract: Ten per cent. novocaine was instilled into the urethra and bladder. A No. F-18 cystoscope entered the bladder without difficulty, but the ocular end of the instrument had to be depressed to a fairly marked degree so as to override obstruction at the bladder neck. The bladder was of good tone and capacity. There was marked trabeculation throughout the bladder wall. There was slight inflammation throughout. Both ureteral orifices looked essentially normal. Indigo carmine given intravenously appeared at the right side in good contraction in 9 minutes and on the left in 11 minutes. The bladder neck showed a rather typical collar-shaped contracture. The whole margin of the internal sphincter was reddened and edematous and bled rather briskly from the manipulations of the instrument. The prostatic urethra was also red and somewhat compressed. There were no anterior or lateral clefts. The ureters were not catheterized. The prostate was carefully palpated per rectum. In the right lateral lobe there was a large area of third degree induration. The whole gland was also considerably hardened and moderately enlarged.

LABORATORY REPORTS

Gastric Analysis: Amount recovered, 50 c.c. Food content, 95%. Free HCL., Total acidity, 10. Occult blood, 0.

Non-protein nitrogen 23, Bilirubin .2, Wassermann negative. Phthalein test 65%. Widal negative.

Blood Examination:

Date	RBC	WBC	Hemoglobin	Color index	Neutrophiles	Lymphocytes Small	Lymphocytes Large
7-16-29	5,592,000	4,600	75%	.68	55%	39%	6%
7-26-29	4,800,000	9,000	90%				
2- 8-30	4,272,000	6,200	78%	.93	61%	31%	7%

The red cells showed some achromia and anisocytosis.

Urinalysis: Specific gravity, 1020. Sugar, 0. Albumin, 2 plus to 4 plus. Reaction, alkaline. Sediment, frequent hyaline and finely granular casts; occasional RBC.

SYMPTOMS

The onset of the symptoms presented nothing marked or characteristic, but later these symptoms produced a well defined clinical picture. The patient had rather marked general weakness. However, in the morning, with the drop in temperature, he was wont to be up and around, going to bed by noon. He did not show the prostration nor the toxemia associated with typhoid or pyogenic infections. The temperature is a rather interesting feature and is also wholly characteristic of the disease. In the morning this ranged from 97-98.8°, beginning a gradual rise at noon, reaching 102 or 103 degrees by 2 P. M., and remaining so until after 8 P. M. Sometime during the night this patient would have a marked chill, lasting 15 to 20 minutes, followed by a profuse sweat, soaking the night clothes to supersaturation. The sweating was general and not confined to the head and neck as is sometimes the case. These chills and sweats were a daily procedure during the onset and the height of the fever. When the temperature began to wane, the chills and sweats ceased; at the same time the patient began to complain of severe pain in the right sacro-iliac region and a right sciatic neuritis, which was followed later by pains in and about the left shoulder joint. Some failing of the vision was noted, also a bronchial cough with some sputum. There was marked loss of appetite and a coated tongue, associated with a sweetish taste to everything. Great difficulty was encountered in eating anything except in the morning. The

*Read at the Annual Meeting of the New Hampshire Medical Society at Concord, May 13, 1930.

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patient lost 30 lbs. in weight. At the height of the temperature some insomnia and a mild occasional delirium occurred. To my knowledge his temperature ran from July 1, 1929, until Dec. 4, 1929, and ended by lysis. He had a relapse starting Feb. 5, 1930, and ending Feb. 19, 1930. This apparently was caused by over-exertion. On cessation of the temperature, in the relapse, there was again the recurrence of the joint pains, and in addition the right ankle joint became inflamed with no apparent swelling. On the right ankle and the left chest petechial spots were noted.

COMPLICATIONS

In this case the complications consisted of a toxic nephritis, a secondary anemia and some nervousness. Others may occur, as epistaxis, mastitis, orchitis, bronchitis, pleurisy and pneumonia.

PATHOLOGY

The pathology in undulant fever is a congestion and hyperplasia of the lymphoid tissue, such as the spleen, liver and the mesenteric glands.

DIFFERENTIAL DIAGNOSIS

Undulant fever may be confused with typhoid fever, tuberculosis, malaria, rheumatoid infections, tularemia, influenza or typhus fever. Typhoid fever is differentiated by the negative Widal test; tuberculosis, on the negative physical findings, a failure to find a local focus, negative x-ray findings, a negative sputum, and the type of the temperature; malaria, on the unusual incidence of a case in this vicinity of a person who had always remained here, on the absence of the parasites in the blood, and on the non-response to quinin therapeutically; allied rheumatic infections, by the absence of foci, by the non-response to the salicylates and the absence of the leukocytosis; the typhoid type of tularemia, by the agglutination test; influenza, by the sudden onset, by the long duration of the fever and mononuclear leukocytosis; typhus fever, by the sudden onset, by the character of the rash, by the Weil-Felix test, and a fever lasting two weeks and ending by crisis.

DIAGNOSIS

The diagnosis was made on a positive agglutination test for the brucella abortus.

TREATMENT

Of great importance in the treatment is the prophylaxis. Pasteurization of the milk would eliminate the milk-borne infections, and vaccination the contact cases.

This case was treated symptomatically. Rest in bed was insisted upon during the height of the temperature. It was found that the elevation of the temperature was not so great when the patient was confined to bed as when he was allowed to be up and around in the morning with the recession of the temperature. Incidentally this procedure conserved his energy to a greater extent.

Food is essential as this is a protracted illness. In the morning, with the normal temperature, it was found that the best meals were eaten, so great effort was made to provide a nutritious breakfast. It was very difficult to get the patient to take nourishment at noon, and liquids were resorted to at night. It was also found that the odor of cooking food greatly increased the patient's aversion for food. This dislike for food was so marked after the temperature had returned to normal and the patient was up and about, that it was found that a better meal was eaten if the odors of cooking food were kept from him.

I gave, at first, five grains of sodium salicylate q. i. d. and found that it readily upset the patient's perfectly regular heart action. Digitalis, with the omission of the salicylates, readily returned the heart to its normal rhythm. The kidney condition was disregarded in the treatment and diet and it was found that the albumin decreased on the cessation of the fever and as the patient gained strength. Some of Abbott's sal-hexin capsules were used in the relapse with no apparent effect on the temperature. Lately it has been found that acriflavin .01 gram per kilo body weight and vaccines can be used in the treatment of the disease. The vaccine cannot be used early in the febrile stage, but late, and to get results a sufficient amount must be given to get a shock reaction.

This patient is at present much better. His appetite is good and his weight is increasing. The temperature remains normal. Examination of the urine shows a two plus albumin with frequent casts. He is able to take short walks as his strength increases. The joint pains still persist to a moderate degree.

CONCLUSIONS

It behooves us now to add undulant fever to our list of unexplained temperatures.

It is also well to examine the blood of our tubercular patients to see if this disease is present.

The urgent need of pasteurization of all milk is again brought out forcibly with the incidence and recognition of undulant fever. With the onset of the summer vacation season action on the part of the Board of Health to take some measures to prevent the spread of this disease is needed. Undulant fever offers a new field for investigators to discover some simple and effective treatment in order that the great economic loss here encountered can be eliminated.

REFERENCES

Simpson, W. M. and Bowers, L. G.: Surgical aspects of undulant fever. Am. J. Surg. 7:597-604, Nov. 1929.
Hoffman, A. M.: Treatment of undulant fever with acriflavine. J. A. M. A. 92:2169-2170, June 29, 1929.
Bancker, E. A., Jr.: The increasing importance of undulant fever. J. M. A. Georgia 18:448-458, Oct. 1929.

Discussion

Dr. Arthur T. Downing, Littleton: The possible excuse for my discussing this case is the fact that I saw the patient during one of his remissions, nearly a year after the onset of the disease. The discussion might at first glance seem easy as no one knows much about the condition. When, however you stop to realize how little you know yourself, the matter becomes serious. In 1924 the first case was diagnosed in the United States; the first case to be diagnosed in Massachusetts occurred in 1928. One fact concerning this disease, mentioned by Lane of Boston in the *New England Journal of Medicine* was a great source of comfort, namely his statement that there is no known means of bedside diagnosis; the laboratory diagnosis is the only means of identification and that not entirely reliable.

In this country, raw milk probably is the most frequent vehicle of infection, though

some cases have been traced to the eating of partially cooked pork. Some cases have seemed to come from outside infection by means of abrasions on the hands of workers around cattle and pigs.

Griffin, of the Sharon Sanatorium, argues that most of the pathology is an ulcerative process in the small bowel, resembling the ulcerations of typhoid and infecting the mesenteric glands, thereby harboring the infection for a long time and thus accounting for some of the unusually protracted cases. The year that the case under discussion continued, seems to be a moderate length of run for this fever.

This particular patient I saw after he had been intermittently sick for nearly a year. He was a well developed and quite well nourished man, showing the flushed face of moderate fever and presenting the typical picture of a mild typhoid. His mind was perfectly clear and he affirmed that he had not an ache or a pain but that he was weak and perspired most of the time.

His appetite was poor but digestion was good. There was no diarrhea and no obstinate constipation. He was able to sit up with comfort when his temperature was normal but felt the exhaustion when the temperature came up again. Keeping him in bed seemed to make no difference in the course of the disease.

A careful examination revealed no physical findings at all, except a rather weakened pulse tension and the obvious exhaustion. A diagnosis of remission of the original condition had to be made by exclusion and by the supposed fact that remissions could happen. This has since proved to be the rule and not the exception. This to me was a very interesting case, but I can add no further light on the subject.

Dr. H. A. Des Brisay, Hanover: If one looks in a textbook for undulant fever, it is found listed under tropical diseases. Since we have had the disease drawn to our attention, it does not appear to be rare in temperate climates, especially in some localities. In Hanover, since last Fall, we have had 19 cases, or at least 19 cases with positive agglutination tests to the B. abortus. Along with these positive cases, positive to a 1-80 or more dilution, there were fourteen negatives.

Most of our cases were characterized by vague symptoms. Some patients had slight signs of nasopharyngitis, otitis media, glandular enlargements, and still others complained of vague joint pains and stiffness. One case was suggestive of typhoid fever when first seen; another of tuberculosis. Two women with positive tests aborted. Some ran very short courses of fever; several ran for weeks, often with recurrences. Most of the cases showed a relative lymphocytosis and rather low white count.

One is almost tempted to try to classify the various types seen as belonging to the typhoid type, the rheumatic type, the nervous type, the upper respiratory type, the abortion type, etc.

In some, at least, another infection appears to start off the condition, as many cases begin with marked respiratory infections, but the fever often persists after all other signs of this have disappeared.

It seems reasonable to make the diagnosis with caution, as possibly some persons may carry a reaction for a time after the illness, just as patients show a positive Widal after typhoid fever. Another objection that has been made is that patients may have agglutinins present in the system from drinking infected milk, without having the disease. In our cases we felt that we ruled out, as well as possible, all other conditions, with various laboratory tests, x-ray, etc.

Hardy states that it must always be borne in mind that infections with positive serological tests, but without clinical manifestations, occur and that these may be associated with other illnesses. King, Merrill and Caldwell in the *American Journal of Medical Sciences* for July 1929 state that individuals with lowered resistance may develop agglutinins in the blood serum with or without the manifestation of appreciable clinical symptoms of undulant fever. Of 851 patients and 156 staff members of a sanatorium using raw milk, 9% showed abortus agglutinins. The agglutinins may persist in the serum for months or years after the recovery of the patient.

Treatment was mainly symptomatic. In some we tried gentian violet by mouth as a disinfectant because of the fact that cases have been reported where there was an involvement of Peyer's patches, and also because the portal of entry is by the intestinal tract, apparently. Results were inconclusive. We did not use acriflavine intravenously. Vaccine treatment appeared to be most beneficial. We used a vaccine of B. melitensis, one billion to one cc., and started with 1/25 of a cc., and gradually increased until a reaction was obtained. However, our series of cases is too small to draw definite conclusions. All patients felt better after the reactions had passed off. The reactions vary, and the maximum was usually 48 hours after the injection. One case by mistake received 8/10 cc. instead of 4/10 cc. and had a severe reaction but an apparent recovery.

The Italians recommend much larger doses and give the vaccine also intravenously, with tremendous reactions. They state that the best results are obtained by intramuscular injections. The mortality rate is low. Of 125 cases in Iowa, four died, in Cincinnati, one in 62 died. There was no mortality among our cases, although one or two are still running fever.

Some of our cases may be open to question. A woman who aborted at four months ran a

slight fever for two weeks in the hospital and gave a strongly positive agglutination test for B. melitensis. The fever apparently responded to vaccine treatment. The question arises in this case, did the B. abortus infection cause the abortion and for how long had she been positive?

In the prevention of the disease, pasteurization of milk is the chief point to be made, although prophylactic vaccination has been used for many years in Malta and the tropics.

DR. H. J. CONNOR, Concord: I would like to speak about a case I saw perhaps a year and a half ago. This was a boy who had been at school in the fall, had had tonsillitis while at school, was sent home and had his tonsils out; this was followed in three or four days by a moderately severe hemorrhage. He went back to the school in the course of three weeks and stayed there about ten days but felt so mean and tired that he came home. He had been home about four weeks when he was taken with a severe abdominal pain, nausea and vomiting, some tenderness over his whole right side, slight rigidity to the muscles on the right side, and a temperature of 104°. His white count at that time was around 6,000. It did not seem as if his appendix was the cause of the trouble, although we were suspicious of it. In the morning his temperature was 96°. The next day he had another chill and his temperature went up to 103°. This rise and fall for two or three weeks, and during that time the laboratory tests did not show anything except a low white count, with a small lymphocyte count of around 50 per cent. At that time the agglutination test was negative. The patient was in the hospital a couple of weeks; as, however, nothing but an undulant fever was found, we sent him home. After he had been home, another blood test showed positive agglutination. He did not receive any treatment and went along for about four months, when he had a remission lasting about two weeks.

There was one important fact. So far as we could trace, he never had had anything but pasteurized milk; he never had any raw milk. Whether or not he had a latent infection there that was stirred up by the secondary hemorrhage, whether his tonsillitis stirred up the infection, or what the causative factor was, we do not know.

DR. C. O. COBURN, Manchester: I have nothing to say, Mr. President. I had a case pretty nearly parallel to the one cited in the paper. I made a diagnosis and the man is all right. When he was about well he read the *Ladies Home Journal* and decided himself he had undulant fever.

MISCELLANY

LEGISLATIVE MATTERS IN NEW HAMPSHIRE

The New Hampshire Medical Society after mature consideration by its Committee on Public Relations, Public Policy and Legislation offers the following measures to the legislature of this year for favorable action:

Samuel T. Ladd, Portsmouth, Chairman.
Henry O. Smith, Hudson.
James W. Jameson, Concord.
Osman H. Hubbard, Keene.
President New Hampshire Medical Society.
Dennis E. Sullivan, Concord.
Secretary-Treasurer New Hampshire Medical Society.

Committee on Public Relations, Public Policy and Legislation.

EXTENDING THE POWERS OF THE INSURANCE COMMISSIONER

1. *New Powers.* Chapter 271 of the Public Laws relating to the insurance commissioner is hereby amended by renumbering sections 16, 17, 18, 19, 20 and 21, as, respectively, 20, 21, 22, 23, 24 and 25, and by inserting the following new sections:

16. *Complaints.* Any person who feels aggrieved by the acts of any insurance, bonding, liability or casualty company or those of its agents, or any insurance, bonding, liability or casualty company aggrieved or in dispute with its policy holder or any claimant against it, may file a written complaint with the commissioner, setting forth the grounds of grievance and asking for a hearing thereon.

17. *Notice.* The commissioner shall fix a date for hearing of the complaint, which shall be not less than one month later than the day of filing such complaint, and shall give to each complainant and to the parties complained against a written notice of such hearing. The notice shall contain the name of each complainant and the substance of the complaint, and shall be sent by registered mail at least fourteen days before the date set for hearing.

18. *Findings.* After hearing the commissioner shall make his findings, shall seasonably notify all parties thereof, and may publish the same if he deems that the public good requires.

19. *Use of Findings.* The commissioner may consider the findings made upon such complaint, so far as pertinent, as evidence of the financial condition of the company, its ability to fulfill its obligations, whether it has complied with the law, and the equity of its dealings with its policy holders, to be used in the determination in any appropriate circumstances of the question as to whether the company shall be authorized to do or to continue to do business in this state.

2. *Takes Effect.* All acts and parts of acts inconsistent with this act are hereby repealed, and this act shall take effect upon its passage.

PROVIDING FOR THE MENTAL EXAMINATION OF PERSONS CHARGED WITH CERTAIN CRIMES

1. Chapter 366 of the Public Laws is hereby amended by adding at the end thereof the following new section:

50. *Mental Examinations.* Whenever a person is indicted for an offence the punishment of which may be death, or whenever a person who is known to have been indicted for any other offense more than once, or to have been convicted of a felony, is indicted or is held by a municipal court or justice to answer for an offence not within the jurisdiction of such municipal court or justice to determine, the clerk of the court in which the indictment is returned, or the clerk of the municipal court or the justice, as the case may be, shall give notice to the Commission of Lunacy, and the Commission shall cause such person to be examined with a view to determine his mental condition and the existence of any mental disease or defect which would affect his criminal responsibility. The Commission may delegate the examination to any competent physician or physicians within the state, and those making examination shall cause a report of the examination to be filed with the clerk of the court in which the trial is to be held, and the report shall be accessible to the court, the attorney general, the county solicitor, and to the attorney for the accused. In the event of failure by the clerk of a municipal court or the justice to give notice to the Commission as herein provided, the same shall be given by the clerk of the superior court after entry of the case in said court. Upon giving the notice required by this section, the clerk of a court or the justice shall so certify on the papers. A physician making such examination shall, upon certification by the Commission, receive from the county such fees and expenses as the presiding justice of the superior court shall allow. Any clerk of court or justice who wilfully neglects to perform any duty imposed upon him by this section shall be punished by a fine of not more than fifty dollars.

2. *Takes Effect.* All acts and parts of acts inconsistent with this act are hereby repealed, and this act shall take effect upon its passage.

GIVING CERTAIN LIENS TO PHYSICIANS AND HOSPITALS

1. *Lien Law Amended.* Chapter 217 of the Public Statutes is hereby amended by adding at the end thereof the following:

LIENS OF PHYSICIANS AND HOSPITALS

38. *Upon Claims for Insurance.* Any physician or hospital that has entered into an implied or expressed contract with a person who has suffered personal injuries and who has a claim arising from such injuries against another person shall have a lien against any sum due or which may become due from such other person to the injured person or for his benefit to the extent that such physician or hospital may give treatment or perform services to or for such injured person in connection with or growing out of such injuries, but not exceeding the total amount due or to become due to the injured person, or for his benefit, from such other person because of such injuries. Such physician or hospital shall have a similar lien against any sum due or which may become due from any insurance company because of or in connection with such personal injuries, whether the same be payable directly or indirectly to the person causing the injury as an indemnity for damages recovered for said injuries, or whether the same be payable directly or indirectly to the injured person or for his benefit.

39. *How Made Effective.* The lien provided by the foregoing section shall become effective upon the physician or hospital giving to the person or insurance company affected a written notice of intention to claim the lien. The notice shall give the name of the person for whom treatment or services have been performed or are to be performed, the value of the treatment or services already furnished for the injured person, the best possible estimate of the further time that such services or treatment may be required, and, in case the notice is given to an insurance company, the name of the policy holder against whose claim the lien is intended to run. The notice shall be sent by registered mail to the person affected at his last known address, or if an insurance company, to such company in care of the insurance commissioner. Upon receipt of any such notice, the insurance commissioner shall notify the company thereof in such manner as he is required to notify foreign companies of attachments against them made in his office.

40. *How Secured.* Any such lien may be secured by attachment made within one year after the giving of notice as provided by the last foregoing section, such attachment to be by trustee process naming the person or company affected as trustee. Service thereof against any insurance company shall be made upon the company through any resident agent of the company, or, if there be no such resident agent, upon the insurance commissioner as agent for such company.

41. *To What Extent Valid.* No settlement, whether before or after judgment, effected without the consent of any lien-holder by other interested parties shall invalidate any lien created hereunder, and if the money shall be paid in accordance with such settlement the parties who made the same shall be jointly and severally liable to the physician or hospital, or to both, for the lien hereby created.

2. *Takes Effect.* All acts and parts of acts inconsistent with this act are hereby repealed, and this act shall take effect upon its passage.

RELATING TO THE REVOCATION OF LICENSES TO PRACTICE MEDICINE

1. *Revocation.* Section 14 of chapter 204 of the Public Laws is hereby amended by striking out the whole thereof and substituting therefor the following: 14. *Revocation.* The board may revoke the license of any licensee who has been convicted of a crime punishable by imprisonment in the state prison or whose moral character or personal habits are such

as to unfit him for the practice of medicine. The board shall revoke the license of any licensee who obtained it by fraudulent means, or in case the licensee shall have been convicted of homicide as the result of malpractice.

2. *Takes Effect.* All acts and parts of acts inconsistent with this act are hereby repealed, and this act shall take effect upon its passage.

AUTHORIZING A SPECIAL COMMISSION TO INVESTIGATE THE SUBJECT OF CANCER AND OTHER CHRONIC DISEASES

The governor, with the advice and consent of the council, shall appoint a commission of five citizens of whom no less than two shall be licensed physicians in the state, to make a survey of the state to determine the number of cases of cancer of all types and other chronic diseases incapacitating for usefulness and ability to earn a livelihood. The said commission shall report its findings to the next legislature stating the approximate numbers of incurables and the facilities under present regulations of hospitals and other institutions to receive such cases and properly care for and treat them according to present-day accepted standards, and shall make such recommendations as their investigations warrant to the next legislature. The members of the commission shall receive no compensation but shall be reimbursed for their actual expenses in the performance of their duties as such members. The commission shall have power to employ all necessary clerical and stenographic assistance, the accounts therefor to be approved by the governor and council.

The sum of one thousand dollars is hereby appropriated to carry into effect the provisions hereof, and the governor is hereby authorized to draw his warrant therefor.

EXTENDING THE POWERS OF TOWNS WITH RESPECT TO THE PUBLIC HEALTH

1. *Physicians.* Paragraph XXIII of section 4 of chapter 42 of the Public Laws is hereby amended by adding at the end of said paragraph the following: Two or more neighboring towns may each make appropriations for the joint support of the same physician, who shall be resident in one of said towns. The selectmen of the several towns making appropriations for the support of the same physician shall constitute a board for the purpose of employing and dismissing such physician; so that said paragraph as amended shall read as follows: XXIII. *Physicians.* To support a resident physician, in towns which otherwise would be without the services of such physician, the appropriation to be expended in quarterly payments. Two or more neighboring towns may each make appropriations for the joint support of the same physician, who shall be resident in one of said towns. The selectmen of the several towns making appropriations for the support of the same physician shall constitute a board for the purpose of employing and dismissing such physician.

2. *Hospitals.* Paragraph VI of section 4 of Chapter 42 of the Public Laws is hereby amended by adding to the end of said paragraph the following: Two or more neighboring towns may each make appropriations for the aid of a hospital or clinic or health center, either one or more of them, located in one of said towns; so that said paragraph shall read as follows: VI. *Hospitals.* To aid hospitals. Two or more neighboring towns may each make appropriations for the aid of a hospital or clinic or health center, either one or more of them, located in one of said towns.

3. *Residence of Health Officers.* Section 2 of chapter 126 of the Public Laws is hereby amended by adding at the end of said section the following: and except, also, that upon the recommendation of the selectmen of each of several towns the state board may in its discretion appoint any qualified person resident in one of said towns as health officer for all of said towns, and such joint officer shall receive such compensation from each town as the selectmen thereof or the town shall fix; so that said section as amended shall read as follows: 2. *Residence.* Said health officer shall be a resident of the town for which he is to act, except that the state board may appoint any qualified person to act in unorganized localities; and except, also, that upon the recommendation of the selectmen of each of several towns the state board may in its discretion appoint any qualified person resident in one of said towns as health officer for all of said towns, and such joint officer shall receive such compensation from each town as the selectmen thereof or the town shall fix.

4. *Takes Effect.* All acts and parts of acts inconsistent with this act are hereby repealed, and this act shall take effect upon its passage.

NEW HAMPSHIRE SURGICAL CLUB

DIVERTICULA OF THE STOMACH*

BY JOHN F. GILE, M.D.†

JUDGING from the small amount of space given to gastric diverticula in the textbooks of surgery, the occurrence of a case is justification for a report.

Terry and Ward in Lewis' "Practice of Surgery" have only the following to say in regard to the condition: "Diverticula of the stomach are quite rare. The true type with intact coats are probably always congenital, while the false diverticula are herniae of the mucosa through the muscular coats. It is often a difficult matter to decide from the roentgenologic appearance whether we are dealing with diverticula or a penetrating ulcer, for the defects may appear alike."

CASE REPORT

Mary Hitchcock Memorial Hospital, Hanover, N. H.

No. 34739. Admitted January 2, 1930. Girl, age 7.

Chief Complaint: Pain in stomach.

Family History: Both parents living and well, one sister living and well.

Past History: Patient had had no serious illnesses. Six months previously the appendix was removed. Appetite stated to be fair. Bowels regular. No diarrhoea or jaundice. At times the patient had nocturia for a month at a time, then was perfectly all right for a month. No dysuria. Up to three years ago the patient seemed perfectly normal. At this time she was taken with a sharp pain below the umbilicus with vomiting of blood for twenty-four hours, followed by a sort of stupor. At this time she was brought to the hospital and an epigastric tumor was discovered. Patient was put on diet of green vegetables and cod liver oil and felt well until two years later. Diagnosis at this time was pylorospasm. Ten months ago she began having attacks of extreme epigastric pain and pain just below the umbilicus every two or three weeks and lasting two or three days. There was no nausea or vomiting, but usually constipation accompanied the attacks. She seemed perfectly well between attacks. The appendix was removed, but the attacks continued. The day before admission she had another attack of pain with relief following enemas. The epigastric tumor was noticed again for the first time since three years ago.

Physical examination showed a poorly developed and nourished girl. Enlarged cervical glands present. Heart and lungs negative. A firm, slightly elastic tumor, the size of an orange, was felt in the midline. It did not move with respiration. The ribs lifted away from the tumor on inspiration. The reflexes were sluggish. Urine negative. Red count 2,445,000. Leucocytes 90%, lymphocytes 7%. Temperature normal to 100.2. Pulse 80-100. No blood found in the stools; strings of mucus reported. Barium x-rays showed stomach not filled beyond mid portion in any plates, but empty at six hours. We are sorry to say that fluoroscopic examination was not done. It was felt that there was some extragastric cause for the tumor, probably pancreatic, and, on account of the appearance of the x-rays and the continued pain and inability to take nourishment, operation was advised.

Operation was performed two days after entrance, under ether anesthesia. A high right rectus incision was made. A mass was found connected to the lesser curvature of the stomach near the pylorus. As it was freed it seemed to empty and became much smaller as it neared the stomach. Pancreatic tissue posteriorly was involved in the dissection and bleeding was very free. It was tied and cut at the base and the stump covered with peritoneum and omentum. A pack had to be placed on the pancreas to control the bleeding. The pack was removed on the fifth day and convalescence was entirely uneventful. Temperature quieted down on the sixth day and remained so; appetite and bowels were normal. The wound healed well, and at the present time the child is very well and has had no recurrence of attacks of pain and is growing faster than at any time in the past three years.

Pathological report showed "the tissue to be stomach wall with typical colon mucosa on about one-half, the remainder resembles stomach mucosa as seen near the pylorus. In my opinion, at some period, very early, there was an opening between the stomach and colon. The half nearest the colon became obliterated and left the cup shaped diverticulum in the stomach wall. Not inflammatory, not malignant. Pathological diagnosis: Gastric diverticulum."

Diverticula of the stomach are usually classified as true and false, the former having present all three layers of the stomach, whereas the false have one or more layers missing and are often only a protrusion of the mucous membrane through a tear in the muscular coat. It is also stated that true diverticula are always congenital in origin and that false are acquired. The case under consideration is of some interest because of the fact that there is colon mucosa present in the sections. There was no attachment to the colon so far as could be made out at operation. Numerous cases have been reported with pancreatic tissue in close relationship to the diverticulum, as was the situation in this case. Embryologically there can be no relationship which would give a connection between stomach and colon, and it would therefore seem that this was an acquired condition and that at some time an inflammatory process was present which gave the picture that is described in the pathological report.

Acquired diverticula are further subdivided into pulsion and traction diverticula. These terms are more or less self-explanatory. Anatomically at the posterior wall of the cardia, on account of the arrangement of the muscle fibres, there is said to be a weak spot, and any

*Presented by the retiring president at the Annual Meeting of the New Hampshire Surgical Club, September 15, 1930 at Lake Sunapee, N. H.

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increased intragastric pressure may cause a propulsion of the wall and consequently form a diverticulum. Stenosis of the pylorus is said to be a cause for this increased intragastric pressure. What the reason for the "weak spot" in the stomach and the consequent diverticulum is is often hard to explain.

Traction diverticula seem to be more readily explained, as any intra-abdominal inflammatory lesion might cause such a condition. Cases have been cited of the gall bladder being one cause. Jones describes a diverticulum lying in the midst of adhesions between stomach, transverse colon, and the gastrocolic omentum, which sounds much like the case reported here. It was thought that this was caused by an old ulcer, but completely healed.

The report of cases of diverticula have been in many cases only casual findings, or discovered at autopsy, and in neither case have they produced symptoms referable to the condition. The general feeling is that many discovered incidentally, with some other condition, should not be removed, particularly if it is thought that curing the latter may give relief. There seems to be no question but that the case reported here, however, had definite symptoms referable to the diverticulum and relief was obtained by its removal.

Radiographically there are certain rules laid down for diagnosis, and probably without x-ray a preoperative diagnosis cannot be made.

So far as treatment goes, it may happen that the diagnosis will not be made until operation, and in view of no other findings the proper treatment, namely excision, will be indicated. If the diagnosis is made by x-ray, it is debatable as to whether or not to remove. Mayo has found carcinoma at the bottom of the sac in two cases, and it is perhaps wise to bear in mind that the continued irritation of food in the bottom of such a pocket may lead to this change. To sum up, it seems that no definite rules can be laid down as to treatment.

In summary, a case of diverticulum of the stomach has been reported, diagnosis of which was not made until operation. It would seem to have been of the acquired variety, but as to what the etiology was is still an open question, although some old inflammatory lesion seems to best explain it. Relief was obtained following operation.

REFERENCES

Kalbfleisch, Wm. K.: "Diverticula of the Stomach." American Journal of Roentgenology, September, 1929.
Sutherland, Chas. G.: "Multiple Diverticula with Haemorrhage in the Wall of the Stomach: Report of Case." Radiology, December, 1925.
Rothbart, L.: "Echtes Magendivertikel." Forschnite auf dem Gebitte der Rontgenstrahlen, V. 30, 563-565, 1923.
Chutro, Pedro: "Sobre una curiosa deformacion del estomago." Zentralblatt fur Chirurgie, V. 37: 696, 1910.
Handtmann, E.: "Zur Kenntnis der Divertikel des Magens." Thesis. University of Zeno, 1912.
Falconer, A. M.: "A Case of Congenital Diverticulum of the Stomach and Duodenum in Physiological Hour Glass Stomach." The Lancet, May 1, 1907.
Brown, George E.: "An Unusual Stomach Case with Roentgenographic Finding." Journal American Medical Association, LXVI, 1918:1919, 1916.
Emery, E. S., Jr.: "Diverticula of the Stomach." American Journal Roentgenology and Radiographic Therapy, XI, 354-358, 1924.
Jordan, S. M. and Lahey, F. H.: "Diverticula of the Alimentary Tract." Surgical Clinics of North America, Vol. 6, 1926, p. 747-765.
Lawson, J. D.: "Report of a case of gastric diverticulum." Radiology, VI, 518-520, 1926.

UTAH STATE MEDICAL ASSOCIATION

Resolutions Adopted by the Utah State Medical Association

Whereas—The present Army regulations require that every medical reserve officer shall, during each five years' commission period, put in two hundred (200) hours military work, in camp, correspondence school, inactive training meetings, or similar military activity, or else become ineligible for renewal of his commission with assignment to an Organized Reserve Unit, and therefore revert to the "Auxiliary Reserve" in time of peace; and

Whereas—There are many highly trained, highly skilled, and very active physicians who, as reserve officers, have been assigned as chiefs and assistant chiefs of surgical, medical, laboratory, roentgen and other distinctly professional services, and in positions requiring special technical skill such as is usually possessed by specialists, carrying very little administrative responsibility, and whose professional duties in busy private lives make them especially well fitted for their duties in their army assignments, but whose same duties make it practically impossible for them to carry on military work in time of peace; and

Whereas—Many of these men and their valuable attainments are being lost to the Organized Reserve, although they are willing and anxious to serve their country in time of need and do not aspire to advancement in grade.

Therefore, Be it resolved, that the Utah State Medical Association, desiring that the medical profession may be of the greatest service to our country, respectfully suggests that the best interests of the military service might be enhanced if the regulations regarding the Organized Reserve were changed to provide for the recommission and reassignment of officers holding assignments such as those mentioned in the second paragraph, even though they may not have completed the required amount of military work, and hereby recommend consideration of such change; and further

Be It Resolved, that a copy of this resolution be sent to the Corps Surgeon and the Commanding General of the 9th Corps Area, the Surgeon General of the Army, the officer in charge of Organized Reserves, the Adjutant General of the Army, the Chief of Staff of the Army, and the secretary of each state medical association.

James P. Kerby,
C. M. Benedict,
M. M. Critchlow.

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 17061

CARDIOSCLEROSIS OF FIFTEEN YEARS' DURATION WITH TERMINAL PAIN AND TENDERNESS IN THE RIGHT COSTOVERTEBRAL ANGLE

MEDICAL DEPARTMENT

An unoccupied Russian Jew sixty-two years old entered January 15 complaining of dyspnea of long duration.

For the past fifteen years he had been visiting the Outpatient Department. Arteriosclerosis was noted the first time he was seen, although his complaint was of continuous shoulder pain which was diagnosed as infectious arthritis.

Six years later he complained of attacks of precordial pain which he had had for three years. They were brought on by exertion, relieved by rest, lasted from a few minutes to an hour and a half and were frequently accompanied by palpitation, skipping of heart beats and some dizziness. The pain did not radiate to the arm. He had not worked since the onset of these attacks.

Examination at that time showed dyspnea on the least exertion, a pulse deficit of 28 (radial 96, apex 124), blood pressure 130/68. There was a diffuse apex impulse in the sixth interspace. The right border of dullness was 5 centimeters, the left border 10. There were no thrills or murmurs, no edema. An electrocardiogram showed auricular premature beats, left ventricular preponderance plus 29, inverted T in lead 1. He was digitalized. A week later he showed great improvement. There was no pulse deficit, rate 60, regular. He was told to report in three weeks, but did not come again for six years.

Two years and a half before admission he returned with the same complaints, and in addition told of several attacks of substernal pressure without dyspnea but with profuse sweating.

Examination showed slight cyanosis and an emphysematous chest. The left border of dullness was 12 centimeters to the left of midsternum, the midclavicular line 8.5, the supracardiac dullness 7. Rhythm regular. A systolic murmur at the apex. Aortic second and pulmonic second sounds equal. Rate 65. An electrocardiogram showed normal rhythm, rate 60, intraventricular block of right bundle branch. He was digitalized. A month later he was practically symptom-free.

A year after this visit he had a severe attack of squeezing pain in the heart lasting four hours or more. He became semiconscious and was taken to a hospital where he remained for three weeks, most of the time on the danger list. A week after his discharge he reported at the Outpatient Department. His pulse was 60, his blood pressure 105/70. He was told to continue digitalis and nitroglycerin for the attacks as before.

Six months later he reported epigastric and substernal pain at night without dyspnea, although he had some dyspnea on exertion. There was no edema. The pulse was 72. The previous orders were repeated.

Two months after this visit and ten months before his entrance to the wards he reported orthopnea. He used three pillows. There was no typical pain, but he had a left chest pain between the axillary lines like "pins and needles" and a right upper quadrant pain which came on without relation to exertion. Examination showed a third heart sound at the apex which would have given a gallop rhythm if the rate, 84, had been faster. The heart was regular.

Two months later after he had been drinking more fluids than usual during the Jewish holidays his feet and legs swelled. He spent twenty-one days in bed, taking potassium iodide, vinegar, squills, digitalis infusion, Epsom salts and no fluids. The cardiac asthma disappeared under treatment. Examination showed a systolic murmur all over the precordium, heart action regular, rate 72, a suggestion of gallop rhythm, a few râles at the bases, no edema. Orders, limit fluids, digitalis a grain and a half daily.

In July, six months before admission to the wards, he reported that after ten days of treatment his legs swelled. He went back to his own physician. Examination showed a blood pressure of 125/50, some edema of the ankles, râles at the left base, pulse 72. He was told to report in a month.

During the next six months he had spent practically all of his time in the house. In going upstairs he spent five minutes in climbing sixteen steps. For the six weeks before admission he had substernal pain after walking a short distance, relieved by rest and nitroglycerin. He now required four pillows. He slept very little. He vomited frequently after taking the medicine prescribed by his physician. He had occasional edema, clearing up with his medical treatment. A week before admission he developed cough on lying down, with white frothy sputum. His throat felt tired so that it hurt to talk.

He gave a vague history of some use of alcohol. He was seldom intoxicated.

His bowels had been constipated all his life. He had nocturia three times at night; no other urinary symptoms. He had cataracts in both

eyes, the vision of the left eye being practically gone.

Clinical examination showed a thin old man with a hoarse voice, looking rather tired. The teeth were gone except for several bad roots. There was marked pyorrhea. There was dullness at the right base with râles at both bases, more on the right. The heart was greatly enlarged to the left. The apex impulse was 12 1/2 centimeters to the left of midsternum in the sixth space, the midclavicular line 8 1/4 centimeters. There was a musical systolic murmur all over the precordia, best heard at the pulmonic area, transmitted to the axilla. The action was regular. The heart sounds were of fairly good quality. The pulmonic second sound was greater than the aortic second. The peripheral vessels were palpable and tortuous. The pulse was 54. The blood pressure was 125/78. The abdomen was full in the right upper quadrant, where a somewhat tender edge of the liver was felt three to four fingerbreadths below the costal margin. There was slight epigastric tenderness. There was right indirect inguinal hernia, easily reducible. The extremities showed no edema, but the feet were purple and very cold. The dorsalis pedis and posterior tibial arteries were not felt on either side. The knee jerks were reduced, the ankle jerks not obtained.

The amount of urine was not recorded. The specific gravity was 1.018 to 1.029. There was a slight trace to a trace of albumin at four of five examinations, much bile at one, rare leukocytes to 20 per field at all of four, hyaline casts at three, cellular at one, granular at three. Blood: 7,200 to 22,400 leukocytes, polynuclears 64 per cent, hemoglobin 90 per cent, reds 6,200,000, smear normal. Hinton negative.

X-ray examination showed the diaphragm excursion limited. The right costophrenic angle was obliterated by homogeneous dullness which rose in a thin band along the axilla and extended into the interlobar pleura. There was generalized diminished radiability of the entire lung field and marked increase in the width and density of the larger lung markings and hilus shadows. The heart shadow was considerably increased downward and to the left in the region of the left ventricle. The supracardiac dullness was slightly increased.

The night of admission the patient had pain and tenderness in the right lower quadrant and slight right costovertebral tenderness. Two nights later he complained of right costovertebral pain, slightly increased by deep breathing. There was questionable slight fullness in the right costovertebral region with quite marked tenderness. The leukocyte count had risen from 7,000 at admission to 20,000. The urine showed more albumin, 5 to 10 leukocytes, 1 to 2 red cells and 1 to 2 hyaline casts. The temperature was 101°.

January 19 operation was done. Next day the temperature rose to 102.4° and the pulse dropped to 48. Three days later the temperature was 103° and the patient practically unresponsive, with marked Cheyne-Stokes respiration. The chest was full of groans and râles. A portable chest plate showed soft mottled dullness, most marked at the lung roots, fading out towards the periphery. The changes were thought to be probably of cardiac origin. January 25 the temperature was 104°, the patient twitching all over, the respirations 60, shallow, the pulse weaker. January 26 he died.

Clinical Discussion

BY WILLIAM DAVID SMITH, M.D.
and GEORGE W. HOLMES, M.D.

NOTES ON THE HISTORY

Dr. Smith: The pain was brought on by exertion and relieved by rest. So far it is certainly the anginal type of pain. But pain accompanied by palpitation, skipping of heart beats and dizziness is not so clearly anginal. The history makes us wonder whether these may have been fatigue pains associated with abnormal rhythm even with his dizziness, and brings up the question whether he had a little heart block and a beginning Stokes-Adams syndrome. We know the attacks were brought on by exertion and relieved by rest. We know that there were other symptoms not characteristically accompanying angina. Certainly we may assume that he had some coronary sclerosis.

Angina typically radiates to the arm, but not necessarily.

Unless he was a very big man he has an enlarged heart. Given a big heart with no murmurs, what may make it big?

A Student: Might it be congenital enlargement?

Dr. Smith: I do not know why it is big here. But given a big heart without the signs of valvular disease I always wonder if the patient has not had a previous hypertension which with his decompensation may have dropped. It always makes me wonder whether the case is not primarily hypertensive.

Do you think that we can always tell the difference clinically between a fibrillating heart and a great many premature beats? We ought to be able to, but it is not always easy.

I think of inverted T waves in leads 1 and 2 as suggesting digitalization, myocardial damage or myxedema. We have no evidence that he was digitalized, so here it probably means myocardial damage.

If that had been fibrillation we should have expected that marked improvement with digitalis, but he improved even if he was not fibrillating.

Two years and a half before he came to the wards he again had heart pain and I believe coronary sclerosis pain.

Examination at that time showed the heart to

be bigger than it was before, with intraventricular block of the right bundle branch.

Which carries the worse prognosis ordinarily, complete block or intraventricular block?

STUDENTS: Intraventricular block.

DR. SMITH: I think so, without much question. That does not mean the patient may not live a considerable time. But the prognosis is usually worse with intraventricular block than with complete block.

Are there any suggestions as to what may have happened to him when he had the attack of squeezing pain in the heart?

A STUDENT: Did he have coronary thrombosis?

DR. SMITH: I think that is the most probable thing.

The blood pressure has dropped somewhat, as it characteristically does with coronary thrombosis.

We have only one new thing in the history of the six months before admission. We have epigastric pain. That may be cardiac pain, common enough in cardiosclerosis. On the other hand he may be getting a congested liver with stretching of the liver capsule, or it may be an evidence of gall bladder disease. But on the basis of what we know about him it is probably heart or congested liver.

The pain in the right upper quadrant is another pain to think about. It may be the liver; it may be gall bladder; it may be heart.

He is getting a little worse; he has a gallop rhythm now, and epigastric pain as well as squeezing pain in the heart.

In the history of edema following his holiday drinking we have for the first time evidence of congestive failure. The systolic murmur is growing more and more pronounced. I am never quite sure to what a murmur such as that is due. Of course it is very easy to say relative mitral insufficiency. On the other hand arteriosclerosis may give such a systolic murmur. We do not know whether that murmur originates in the aortic or the mitral area.

It would be interesting to know whether this man had been kept digitalized all these years. We cannot tell from this record.

He was getting an increase of chronic passive congestion of the lungs that did not quite amount to pulmonary edema. We are not told anything about wheezing, so we cannot call it asthma.

NOTES ON THE PHYSICAL EXAMINATION

This is the first time we have heard the term "musical". A "musical" murmur usually means to me that there is some damage to a valve, maybe arteriosclerotic damage. But I do not think a murmur due to stretching of the mitral or aortic orifice is ordinarily musical.

He had a big tender liver. The simplest explanation is chronic passive congestion. The slight epigastric tenderness may be explained in the same way.

The only thing that particularly interests me in the urine report is that much bile was found at one examination. That I do not understand. It is certainly unusual for a man to have a great deal of bile in the urine one day and none the following or preceding day. Nothing is said about jaundice.

He had a pretty high leukocytosis before he left the hospital.

The supracardiac dullness ought to be increased with an arteriosclerotic arch. I suppose he had a little fluid in his right chest and that the signs of diminished radiability were probably due to chronic passive congestion.

It seems to me we cannot attribute pain in the right lower quadrant to his heart, because even if he had an embolus I do not quite know where he could have it in the right lower quadrant. A mesenteric embolus would have given an entirely different picture.

Suppose he had a perinephric abscess, might breathing cause pain? Or would that mean that it must be pleural?

A STUDENT: Not necessarily.

DR. SMITH: No. The differential diagnosis between pleurisy and some lesions below the diaphragm is often very difficult. I have seen it so difficult that at operation the surgeon was not quite sure whether the abscess was above or below the diaphragm. There can perfectly well be pain on breathing if there is an abscess under the diaphragm.

When they put in the record "questionable" one does not know whether to believe it or not.

I do not think that urine report helps the diagnosis at all.

He has an infection somewhere. He has a very definite leukocytosis and a temperature of 101°.

I am not sure what operation was done. It may have been for inguinal hernia in the right lower quadrant, strangulated while in the hospital.

A STUDENT: Would a retrocecal appendix be apt to do that?

DR. SMITH: It might. It would not be apt to give any fullness in the costovertebral region. 20,000 is a fairly high leukocyte count for an appendix, too, unless there is an appendix abscess. Yet that is a good thought; it might be. It does not seem as if he could have strangulated his hernia while in bed in the hospital.

We have, of course, at various times these reports of much bile in the urine and more or less pain and tenderness in the epigastrium. We have to think of gall bladder. I do not believe it is gall bladder. Certainly they would not operate on a man as sick as this except as an emergency operation. If we take the record at its face value we have to say the most likely thing is that with tenderness and questionable fullness in the right costovertebral region and a

leukocyte count of 20,000 he had a perinephric abscess and that they thought that even in his condition they could do an operation very quickly and without very much danger.

DIFFERENTIAL DIAGNOSIS

I think Dr. Mallory must have found a good deal of pathology in this case. This man had, of course, general arteriosclerosis, peripheral and cardiac. He had marked cardiac hypertrophy and dilatation. He had coronary sclerosis. I shall be disappointed if Dr. Mallory does not report a scar on his myocardium. I shall not be surprised if he reports more than one scar. There was heart failure of the anginal type and the congestive type, chronic passive congestion of the lungs, liver and kidneys. I do not believe he had nephritis, but he ought to show a little arteriosclerosis of the kidneys to go with all the rest of it. So far as his surgery is concerned I do not know what was done, but I am going to guess that he had a perirenal infection, that that was operated on as an emergency operation, and that he died a cardiac death. He may have had a terminal bronchopneumonia but I will not say so because there is nothing in the record to suggest it.

A STUDENT: Would he have these symptoms of costovertebral tenderness and so on with embolism and infarcts?

DR. SMITH: He may have had an embolus with infaret in his right kidney. But most of the emboli to the kidney do not have to be operated upon. Of course a septic embolus might give rise to an abscess in the periphery of the kidney.

There is one thing that we always ought to think of in an old heart case when the patient comes to die, and that is the possibility of an active acute endocarditis on top of everything else.

A STUDENT: Was an ophthalmologic examination made at all?

DR. SMITH: None is recorded.

A STUDENT: How about pyelitis causing pain in the right costovertebral angle?

DR. SMITH: That is possible. But the urine with only 5 to 10 pus cells per field and a leukocyte count of 20,000 is not very suggestive of pyelitis, although assuming a pyelitis confined to one kidney with a blocked ureter, we might get such a urinary picture. They certainly would not have operated on him for pyelitis.

A STUDENT: Would you diagnose any valve lesion in the heart?

DR. SMITH: I do not see evidence of anything from which that could originate. I do not believe he had valvular heart disease. At the very beginning of the record he had a big heart without adequate cause so far as the record goes. I will not enter into the argument as to whether arteriosclerosis alone without hypertension can give a big heart.

DR. GEORGE W. HOLMES: There are only two films of interest. One was taken before the operation and the other after it. I do not think that either one of them is going to add very much to the diagnosis. He certainly has a very much enlarged heart. The enlargement is to the left in the region of the ventricle. The picture is perfectly consistent with the heart of hypertension. We sometimes get a similar picture in a case of aortic regurgitation, but there is no evidence of that here. There is surprisingly little increase in the supracardiac shadow. There is some evidence of tortuosity of the aorta; the aortic knob is possibly a little prominent; but there is no such appearance as we should expect to find in advanced arteriosclerosis. He has some changes in the lung, a moderate amount of increase in the hilus shadows, but the picture is not characteristic of passive congestion. There is probably some enlargement of the blood vessels which accounts for part of the picture at least. The diaphragm is a little hazy on the right, and he has a thickened interlobar septum, pleurisy and possibly a little fluid at the base. These portable films were taken with long exposure, and the blurring may be due to breathing. There is evidence of enlargement of the heart, probably the left ventricle predominating. There is very little if any evidence of arteriosclerosis. There are changes in the lung which could be due to passive congestion.

The film taken after the operation does not show any evidence of a postoperative pneumonia, massive collapse or infarct or anything of that sort. The condition is pretty much the same as before.

PREOPERATIVE DIAGNOSES

Perinephritic abscess.
Pyonephrosis?

Using the usual kidney incision the various structures were incised down to the lumbar fascia, which in turn was incised and the peritoneum retracted well forward. The perirenal fascia was then opened. The perirenal fat appeared quite normal. The kidney had a somewhat indurated feeling at the lower pole.

The patient's condition grew very poor while he was on the table and it was thought unwise to attempt any further operative procedure.

X-RAY INTERPRETATION

There is a small amount of fluid in the right base; probably passive congestion of the lung fields. Hypertension.

DR. WILLIAM D. SMITH'S DIAGNOSES

Generalized arteriosclerosis.
Marked cardiac hypertrophy and dilatation.
Coronary sclerosis.
Sclerosis of the myocardium.
Anginal and congestive heart failure.
Chronic passive congestion of the lungs, liver and kidneys.
Arteriosclerosis of the kidneys.
Perirenal infection.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Arteriosclerotic heart disease with congestive failure.
Angina pectoris.
Right renal abscess or pyonephrosis.

ANATOMIC DIAGNOSES

(Hypertension.)
Hypertrophy of the heart.
Sclerosis of the coronary arteries.
Multiple infarcts of the kidney.
Marked chronic passive congestion of the liver and spleen.
Atelectasis of the lungs.

PATHOLOGIC DISCUSSION

DR. TRACY B. MALLORY: We were somewhat limited in our examination at autopsy. We had to do it through the small incision that they had made for draining the supposed perinephric abscess. But we were able to determine with certainty that there was no perinephric abscess, simply multiple infarcts of the kidney. This is the first case I remember seeing where non-septic infarcts of the kidney produced quite such a stormy picture. His intestinal tract was negative. He had marked chronic passive congestion of the liver and spleen. The bases of his lungs were examined only by palpation through the diaphragm. They felt atelectatic. There was a bit of collapse, I think. The heart was definitely enlarged. The coronaries could be felt as calcified tubes. The heart was not removed. Whether or not there was an infarct we are not sure, as we could not examine further. I think we have found enough to confirm all the main diagnoses, except that I cannot say that there was an infarct of the heart as a source of this embolus to the kidney.

CASE 17062

CHRONIC INCREASED INTRACRANIAL PRESSURE WITHOUT HYDROCEPHALUS IN A CHILD

CHILDREN'S MEDICAL DEPARTMENT AND SURGICAL DEPARTMENT

PRESENTATION OF CASE

DR. BERNARD B. GILMAN*: This is a girl aged seven years who entered our Outpatient Department because of drooping eyelids since birth, some deafness and mouth breathing. The physician who referred her to the Children's Clinic raised the question of her being a Mongol or a cretin.

Family history. The father is well. The mother on several occasions has had antiluetic treatment. Their first baby was stillborn. The next two children died at two years and at eighteen months with what was believed to be pneumonia. Two sisters, one older and one younger than the patient, are well and normal.

Past history. The child was born after a difficult, long labor. The birth was without instruments. The child's eyes seemed to protrude at birth. No other abnormal signs or symptoms were noted. She did poorly nutritionally as an infant. She walked at a year and a half and talked at about fifteen months. The protrusion of the eyes gradually became less noticeable. Tonsillectomy was done at three years. She has had very few colds, no motor difficulty and no headaches.

She is in the first grade at school. The mother feels that she is as bright as her sisters.

*Recently interne on the Children's Medical service.

DISCUSSION

DR. GILMAN: This patient has acrocephaly, which is a form of oxycephaly. The forehead is very high and broad. The anterior-posterior diameter of the skull is definitely less than normal. The direction of growth of the skull has been upward in the main, outward to a normal amount and backward very little. The growth of the head has been retarded in the planes perpendicular to the coronal suture. It is probable that this suture was synostosed prematurely and before the birth of the child.

The appearance of the eyes is unusual. The supraorbital ridges are sunken back of the eyeballs in the facial plane. There is ptosis of the lids. The upper lid covers part of the pupil of each eye even when the child opens her eyes as far as possible. This may be the reverse of what occurs in hydrocephalus, where the eyeball is tilted so that the pupil may be partly covered by the lower lid. This abnormality may be due to a change in the shape of the orbits from the peculiar growth of the cranium, or we may merely be dealing with a congenital ptosis of the lids.

The child's vision was somewhat impaired. Correcting a slight refraction error, she had a 20/70 vision in the right eye and 20/200 in the left by the Snellen test. There was beginning choking of the discs (2 diopters).

The hearing was slightly impaired. No other important abnormalities were found.

An x-ray film of the skull showed increased intracranial pressure. There was no syndactylism.

The child was admitted to the hospital. A lumbar puncture showed a normal spinal fluid under an initial pressure of 280 millimeters (normal less than 200 millimeters). Injection of air through the lumbar puncture needle failed to lead to visualization of the ventricles of the brain. The blood and the spinal fluid gave negative Wassermann reactions.

Progressive impairment of vision in oxycephaly is usual. In this child it began later than in most children with this condition.

Because the child, incident to her acrocephaly,

showed increased intracranial pressure with choking of the optic discs and beginning loss of vision, and because it seemed likely that her hearing was also becoming impaired, operative measures to relieve the intracranial pressure seemed indicated.

DR. JOHN S. HODGSON: Three operations have been done here designed to relieve increased intracranial pressure. The first of these was a right subtemporal decompression of the ordinary type and that was followed up to the vertex by guttering the skull. The dura was cut crucially over the decompression area and then slit up to a point a little short of the longitudinal sinus. A few days later a similar procedure was carried out on the left side. Two weeks after that the skull was guttered from one decompression to the other around the back of the head above the external occipital protuberance. The decompression was completed by slitting the dura. At the present time there is a bilateral subtemporal decompression connected above and behind, leaving a large disconnected piece of bone at the back of the head.

Lumbar puncture prior to operation showed moderate increase of intracranial pressure, viz.: 230 millimeters, and there was choking of the discs of 2 diopters. The x-ray findings were confirmatory of that. After the third operation a lumbar puncture was done. It showed the pressure to be somewhat lower, 200 millimeters, about normal, perhaps high normal. That was repeated a few days afterwards and again the pressure was about 200. Then she was sent home.

She has just been readmitted, two months after the third operation. Recent lumbar puncture showed a pressure of 160 millimeters. The eyegrounds show improvement. In one there is choking of 1½ diopters, in the other ½ diopter.

X-rays have been taken. The original x-ray showed evidence of atrophy and the suture lines were very indistinct. These three postoperative x-rays show operative defects in the skull with wide new artificial suture lines.

X-ray taken five weeks after the third operation. This picture shows the bilateral temporal areas of decompression of the skull with the gutters in the bone following the general direction of the lambdoid and coronal sutures. In the frontal bone there is convolutional atrophy due to increased intracranial pressure. In the orbit the roof is flattened and low, and the posterior wall is abnormally forward.

The child does not look very different from what she was before operation. The decompression areas show slight bulging which is not very tense.

LATER NOTE

Six weeks after the last note the child returned to the Outpatient Department. She had been going to school and feeling very well. Examination of the eyegrounds showed that the discs were no longer choked and vision was 20/30 right eye and 20/70 left eye.

DIAGNOSIS

Acrocephaly.

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THE RHEUMATIC STATE

MANY contributions have been made concerning the etiology, pathology and clinical course of rheumatic fever, but there is probably no disease in the Temperate Zones as devastating, in which our knowledge is so meagre and in which our treatment is, as a rule, so purely supportive and symptomatic. For this reason the recent book by Coburn covering observations and studies of the rheumatic state, carried out chiefly at the Presbyterian Hospital, New York City, assumes even more importance than is warranted by the excellent presentation of the subject matter.

The presence of specific rheumatic lesions at autopsy without any evidence of acute disease has led the author to adopt the term "rheumatic state", rather than "rheumatic fever", as the term most appropriate for the variety of clinical manifestations which are found in this disease. He believes that an infectious agent is responsible, but that the effectiveness of this agent in producing or reproducing the rheumatic state is dependent upon at least four important factors in the host—age, susceptibility, environment and infection (other than specific). Efforts to recover organisms from the blood stream of rheumatic patients were unsuccessful, but the possibility of bacteremia from a specific bacterium is not denied. Subsequent bacterial endocarditis is considered as a sequela of damaged valves without regard to the etiology of such damage.

Observations and studies concerning two of the host factors, environment and infection, have led to the conception that infection with hemolytic streptococci is in some way closely related to the rheumatic state. For example, groups with active rheumatic disease and in a community where such organisms were numerous in the pharyngeal flora were markedly improved when transferred to communities where such streptococci were relatively uncommon and, conversely, such groups relapsed when returned to their original residence or when acute upper respiratory disease with the associated presence of hemolytic streptococci appeared in the communities where these organisms had been unusual. Furthermore, the highest seasonal incidence in New York occurred during the early spring months and the primary or secondary attacks usually followed an acute upper respiratory infection—two conditions which were characterized by the presence of hemolytic streptococci in the flora of the throat. Finally, skin tests performed by the intradermal injection of small amounts of nucleo-protein derived from hemolytic streptococci and carried out on more than two thousand individuals yielded the highest percentage of positive responses in patients who had had recent infections with these organisms and in those with active rheumatic disease. Several of the latter group developed erythematous lesions similar to those commonly associated with active rheumatic disease.

Although the author has contributed nothing specific in regard to etiology and therapeusis, the book is extremely important for several reasons. In the first place, the protean nature of the clinical manifestations of the rheumatic state are accurately described and justly emphasized. Secondly, the epidemiologic and bacteriologic problems have been carried out so logically and thoroughly that the results are convincing. Thirdly, sufficient evidence is presented to warrant a serious consideration of the importance of infection with hemolytic streptococci as a factor in the rheumatic state.

REFERENCE

Coburn, Alvin F.: The Factor of Infection in the Rheumatic State. Baltimore, Williams and Wilkins Co., 1931.

HOUSE BILL 977

THE text of this bill is published on page 281 of this issue and should be given careful consideration by physicians because it extends the time within which suits may be entered against

physicians for alleged malpractice, negligence, error or mistake.

The present law provides that such suits must be entered within two years from the time of the alleged ground for action. Extension of this time would be a great disadvantage to the doctor because of the difficulty of finding witnesses for the defense who might have moved away. Another important factor is the liability of having to meet the claim of the prosecution that all disabilities or suffering during the succeeding six years are due to the original cause of the complaint. The prosecution could and in some cases would allege that every possible factor which would strengthen the claim would be brought to bear to influence a jury. The present law gives ample protection to the claimant. The practice of medicine is already hazardous so far as the danger of suits is concerned.

The other features of the bill are bad enough but the matter of the extension of time is vicious because it would stimulate the gambling instinct of those who look upon doctors as easy victims under the operation of a malpractice suit.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

MEANS, JAMES H. M.D. Harvard University School of Medicine 1911. Jackson Professor of Clinical Medicine, Harvard Medical School. Chief of Medical Services, Massachusetts General Hospital. Address: Massachusetts General Hospital, Boston. Associated with him is:

LERMAN, JACOB. M.D. Harvard University School of Medicine 1927. Research Fellow and Assistant in Medicine, Harvard Medical School. Research Fellow in Medicine, Massachusetts General Hospital. Address: Massachusetts General Hospital, Boston. And

CASTLE, WILLIAM B. M.D. Harvard University School of Medicine 1921. Assistant Professor of Medicine, Harvard Medical School. Associate Physician, Thorndike Memorial Laboratory, Boston City Hospital. Address: Boston City Hospital, Boston. Their subject is: "The Coëxistence of Myxedema and Pernicious Anemia." Page 243.

BIGELOW, GEORGE H. A.B., M.D. Harvard University School of Medicine 1916. Doctor of Public Health, Harvard 1921. Commissioner of Public Health for Massachusetts. Address: State House, Boston. Associated with him is:

LOMBARD, HERBERT L. A.B., M.P.H., M.D. Bowdoin 1915. Director, Division of Adult Hygiene, Massachusetts Department of Public Health. Address: State House, Boston. Their subject is: "The Eighth New England Health Institute." Page 248.

DOWNING, JOHN G. A.B., M.D. Harvard University School of Medicine 1915. Surgical Interne, Boston City Hospital. Postgraduate, Dermatology, Harvard Medical School and Massachusetts General Hospital. Assistant Dermatologist, Boston City Hospital and Beth Israel Hospital. Teaching Assistant Dermatologist, Harvard Medical School and Tufts Medical School. Consulting Dermatologist, U. S. Public Health Service, Boston Health Department. Dermatologist, St. Elizabeth's Hospital, St. Margaret's Hospital, Chelsea Marine Hospital and Chelsea Memorial Hospital. Address: 520 Commonwealth Avenue, Boston. Associated with him is:

BLUMENFELD, ABRAHAM. M.D. Tufts College Medical School 1929. Assistant in Dermatology, Boston City Hospital. Assistant Dermatologist, Beth Israel Hospital. Address: 483 Beacon Street, Boston. Their subject is: "The Effect of Calcium in Pruritic Skin Affections; With Especial Reference to Calcium Gluconate." Page 250.

WALKER, WILLIAM G. M.D. State University of Iowa Medical School 1919. Junior Associate in Medicine, Peter Bent Brigham Hospital, Sept. 1922 to July 1924. Attending Physician, Brockton Hospital, Brockton since Jan. 1925. His subject is: "Cinchophen and Acute Yellow Atrophy of the Liver." Page 253. Address: 12 Cottage Street, Brockton, Mass.

MYERSON, MERVIN C. M.D. Long Island College Hospital 1917. Associate Laryngologist, Mt. Sinai Hospital. Director Laryngological Service, King's County Hospital. Bronchoscopist to Harlem, Metropolitan and Rockaway Beach Hospitals. His subject is: "Bronchoscopy in the Diagnosis and Treatment of Chest Conditions." Page 255. Address: 12 East 86th Street, New York City.

PICKWICK, HAROLD C. M.D. Tufts College Medical School 1922. Member Staff, Woodsville (N. H.) Hospital and Littleton (N. H.) Hospital. His subject is: "A Case of Undulant Fever." Page 262. Address: Lisbon, New Hampshire.

GILE, JOHN F. A.B., M.D. Harvard University School of Medicine 1920. F.A.C.S. Member, Surgical Staff, Mary Hitchcock Memorial Hospital, Instructor, Physical Diagnosis, Dartmouth Medical School. His subject is: "Diverticula of the Stomach." Page 268. Address: Hanover, New Hampshire.

THE BOSTON MEDICAL LIBRARY

WILLIAM HEBERDEN

1710-1801

THE model of concise and accurate clinical description established by William Heberden can hardly be improved. The few examples of it that found their way into medical literature serve only to make one wish that the author of them had been a little less modest and believed a little less firmly what he says in an essay "Upon composition, authors and their work in general" etc., viz.: "If men of letters could be obliged to write always with a view to publishing, though without ever doing so, they would be perhaps the happiest of men—Commonly a man who has already established a reputation, loses it as soon as he ventures to give anything to the public." Heberden's classic description of Angina Pectoris and of the nodules upon the terminal phalanges that characterize one of the types of arthritis, and has borne his name ever since, would certainly seem to refute the statement made in the last half of the above quotation. The qualities that lead him to shrink from the perils of authorship seem to have kept him from many another field of activity in which he would doubtless have been distinguished. For one who had so much to give and occupied a position of such prominence in London practice there is surprisingly little to record about his work. For thirty years he resided and practiced in London. Except for a few anecdotes, having no particular significance, and the fact that Boswell makes some mention of him in connection with his attendance upon Samuel Johnson in his last illness and his declination of an appointment to be physician to the Queen, his determination to retire at a certain age, to which decision he was brought when he met Dr. Richard Mead in consultation, at a time when the infirmities of age were hanging heavily upon him, and his association with Benjamin Franklin, there is not much to note in his life that is not derived from a study of his works, and they were far from numerous. His Commentaries, published the year after his death, was perhaps the most widely read book on medicine of the first half of the 19th century. In the introduction to it he gives a suggestion of what may have governed him in his relations to his professional activities throughout his life. He quotes Plutarch as saying "the life of the Vestal virgin was divided into three portions; in the first of which she learned the duties of her profession, in the second, she practiced them, and in the third, she taught them to others. This is no bad model for the life of a physician, and as I have now passed through two of these times, I am willing to employ the remainder of my days in teaching what I know to any of my sons who may choose the profession of Physic, and to him I desire these papers may be given". There is no evidence that Heberden was connected with any of the London Hospitals or Dispensaries of which there were a great number at this time. Unlike so many prominent practitioners of his period he never gave any private courses in medicine and even in his connection with the Royal College of Physicians he very modestly kept in the background. Shortly after his removal to London he became a member of the Royal Society. A badge of distinguished consideration, then as now, was election to foreign societies but to only one of these did he give his consent to join and this was for honorary membership in the Royal Society of Medicine of Paris. This was in 1778. He gave the Goulstonian lecture in 1749, the Croonian in 1760 and the Harveian oration in 1750. He contributed to the Transactions of the College of Physicians and the Royal Society. In his very first publication he gave evidence of the type of mind he possessed for he completely overthrew a formula that the Apothecaries had long exploited as a pharmaceutical superstition. This he wrote while still at Cambridge. He numbered among his contemporaries and friends John and William Hunter, Fothergill, Jenner, Sir George Baker, Withering, Pitcairn, and Robert Gooch. He counted among his patients Cowper, Samuel Johnson and Warburton.

William Heberden was born in London in August, 1710 and was descended from an old family. He attended St. Saviour's Grammar School in Southwark and because he was a promising student there, he went, at an early age, to St. John's College, Cambridge, in December, 1724. He received his B.A. in 1728 and was chosen a fellow of his College in 1730. After this he studied medicine, attended a London Hospital for a part of his training and received his M.D. degree from Cambridge in 1739. For ten years he practiced his profession at the University where he gave an annual course of lectures on materia medica. At Cambridge he gained a reputation as a good classical scholar and there is among the "Athenian Letters," a collection of classical theses written by eminent Cambridge scholars, some that come from his pen. After being admitted to Fellowship in the College of Physicians in 1746 he was persuaded by Sir Edward Hulse to settle in London, giving up his fellowship at St. John's in 1752, at which time he married Elizabeth Martin who died in 1754 leaving him a son Thomas who became Canon of Exeter. In 1760 he married a second time and by this wife had eight children, one of whom followed in his father's footsteps.

He sought partial rest from his practice in his 72nd year by retiring for the summer months to Windsor, returning to London for the winter but for several years before his death, he retired wholly from practice. His death occurred at his home in Pall Mall on the 17th of May 1801. His Commentaries, which is perhaps his

most notable work, was written after he was seventy years of age and was compiled from notes he had most carefully made upon every case he had seen during a period of forty years in practice. Dr. Leroy Crummer has recently published a manuscript he came upon by chance in an old bookseller's collection in South London, not mentioned among Heberden's works in the 1908 Dictionary of National Biography. The title of this is an Introduction to the Study of Physic. In it is given much advice that would apply equally well today.

THE LAYING OF THE CORNER-STONE OF THE NEW ENGLAND MEDICAL CENTER

Dr. Merritt H. Eddy of Middlebury, Vt., laying corner-stone for buildings of New England Medical Center, Monday, January 26, 1931. At right of Dr. Eddy are Arthur G. Rotch, president of Boston Dispensary, and Dr. Alfred Worcester, professor of hygiene at Harvard.*

The ceremony of laying the corner-stone for the buildings of the New England Medical Center was held at 12:30 P. M. on Monday, January 26, 1931. The honor of laying the corner-stone was given to Dr. Merritt H. Eddy of Middlebury, Vermont, the oldest family doctor in New England. Dr. Eddy came to Boston on his ninety-eighth birthday to take part in these exercises. He is a graduate of the University of Vermont College of Medicine (class of 1865) and for sixty-five years has been practicing his profession. As it is the purpose of the New England Medical Center to assist in the training of general practitioners for New England, it was eminently fitting that the laying of the corner-stone be done by the oldest living physician in the New England States.

Assisting in the ceremonies were members of the Trustees of the Tufts College Medical School, The Boston Floating Hospital and the Boston Dispensary, the three institutions which have been brought together in an arrangement calculated to give better facilities for the diagnosis and treatment of the sick poor and persons of moderate means in Boston and vicinity, as well

*Photograph reproduced by courtesy of the *Boston Traveler*.

as for the better training of undergraduate and graduate medical students.

Among those present were: President John A. Cousens of the Tufts College Medical School, Dean A. Warren Stearns, Mr. W. A. Pope, Chairman of the Executive Board of the Boston Floating Hospital, Mr. Arthur G. Rotch, President of the Boston Dispensary and Chairman of the Executive Board of the Medical Center, and the following others: Dr. Merritt Eddy; Dr. Stanton Eddy; Dr. Alfred Worcester; Mrs. Henry I. Bowditch; Mrs. R. M. Saltonstall; Mrs. Alice Balch Stone; Mr. Allston Burr; Mr. Ralph Lowell; Mr. Robert W. Maynard; Mr. James Nowell; Mr. Denis A. McCarthy; Mr. Richard Saltonstall; Dr. Elmer W. Barron; Dr. and Mrs. Francis Barnum; Dr. Arthur Berk; Dr. John D. Adams; Dr. Willis Clarke; Dr. Hilbert F. Day; Dr. William A. Hinton; Dr. Freeman Hibben; Dr. Harry J. Inglis; Dr. Harry F. Friedman; Dr. P. N. Papas; Dr. Oliver G. Tinkham; Dr. Charles M. Proctor; Dr. Russell H. Splaine; Dr. Francis H. Thurmon; Dr. Frederick Tobben; Dr. William Santoro; Miss Rice; Dr. Nathaniel Wood; Mr. William H. Brainerd, Trustee, and Mr. Lewis A. Freeman, representing the Boston Floating Hospital; Mr. Henry B. Sawyer and Mr. Archibald Monks, representing the New England Medical Center Building Committee; Mr. Edward F. Stevens, representing Stevens & Lee, architects of the Boston Floating Hospital; Maurice B. Biscoe, representing Andrews, Jones, Biscoe & Whitmore, architects of the Center Building; James J. Cantor, representing the Cantor Construction Company, general contractors; Miss Egan and Miss Stark of the Boston Floating Hospital; Miss Isabella Hobart, who for seventy-two years lived at 18 Ash Street, one of the buildings bought and demolished to make way for the Medical Center; Mr. W. E. Bunton, of the Bunton family who formerly owned the site on which the corner-stone is laid; Mr. Frank E. Wing, Director of the Boston Dispensary and a large representation of the clinical staff of the Boston Dispensary, as well as the Dispensary's employed staff.

Contents of the Corner-Stone of the Center Building of the New England Medical Center:

Copy of Agreement dated October 6, 1930, with financial statement as of October 25, 1930 attached.

History of the organization of the New England Medical Center, with list of personnel of the Joint Committee attached.

List of contractors working on this building.

List of architects working on all New England Medical Center buildings.

List of elderly doctors compiled in the search for the oldest family doctor in New England.

Printed documents concerning the New England Medical Center:

Herald edition of the New England Medical Center News Bulletin
Transcript edition of the New England Medical Center News Bulletin
Post edition of the New England Medical Center News Bulletin
Handbook of information and Roll Call of Subscribers
Account of a Dinner at the Copley-Plaza Hotel, January 23, 1930
Account of a Luncheon as a tribute to New England's Oldest Doctors
Pamphlet entitled "For Better Health in New England"

After the laying of the corner-stone Mr. Rotch introduced Dr. Alfred Worcester, Professor of Hygiene at Harvard College, who delivered the following short address:

We old-fashioned country doctors are delighted with the building of this Health Center. For we believe that in it not only will there be larger provision for the sick but also far better facilities for training young doctors to be general practitioners.

Medical science can be learned from lectures and books and in the laboratories. But the art of medical practice, like every other art, can be learned only by imitation, that is, only by apprenticeship under masters of the art. The Boston Dispensary has always afforded such opportunities to medical students. Indeed in its earliest years, before there were any hospitals in this part of the country, this was the only place where group teaching of medical students was possible. Nearly a half century ago I myself learned more here than in any other clinic. Of course I do not mean that it was then any more than it now is possible, in a restricted clinic for ambulatory patients, to learn all that is needed for general practice. I mean only that here I had my first and best lessons from a master of the art.

But here in buildings adjoining, the medical student soon will find patients of all kinds, just as if in one of our New England towns all in need of medical or surgical service were to be gathered under one roof.

In the country towns there of course would be no such gathering, and the old doctor's apprentice riding around with him from home to home would be learning how to treat not only the patient himself but also the patient's family. Alas, how can this latter lesson nowadays be either taught or learned!

In fact we old general practitioners have for many years been fearing that in the marvelous advance of medical science the art of practice is being lost. But this need not happen. Specialists we must have, for no one can now as formerly be equally proficient in all branches of medical practice. And although in some of the specialties mastery of the art of practice is not so

indispensable as it is to the general practitioner, yet in every one of the specialties medical students can be taught and ought to be taught how to treat the patient himself while learning how to treat his disease.

However great the need may be for specialists the greater need just now is for general practitioners, who answering every call by either night or day, will do all they possibly can for the relief of the sick and suffering. Such doctors must know at least enough of the specialties to summon the aid of specialists when such service is needed. They must also know enough for emergency service when there is no time to lose, and when so far away as to make the summons of a specialist practically impossible. For, as ought to be more generally known, in many emergencies the patient has better chances from early, even if somewhat crude, service than later he would have from the service of the most expert.

In this new Health Center, as we confidently believe, it will be possible to give future medical students just the kind of training needed for general practice.

Here as I have said they will have opportunity to see patients of every kind under expert treatment, and they will also have opportunity to begin practising under the watchful eyes of their teachers. Not having to run all over the city to different clinics their apprenticeship will be more continuous. In short they will have a better chance than before to learn the art while learning the science of medical practice.

After the exercises, the guests of honor were entertained at luncheon by Mr. Rotch and Mr. Wing at the Nurses Home of the Boston Dispensary.

THE BUILDINGS IN THE MEDICAL CENTER GROUP

Boston Floating Hospital, corner of Ash and Nassau Streets, a four story and basement building with 45 beds for all the year round care of babies and children up to twelve years of age. This is to be known as the Jackson Memorial Building.

Center Building. This building will house service facilities for the three institutions including kitchens, dining rooms, cafeteria, laundry, etc., on the ground floor. The first, second and third floors will be maintained by the Boston Dispensary for enlarged clinic space and will house its Medical Clinic, Food Clinic, Ear, Nose and Throat Clinic, Nerve Clinic, Skin and Syphilis Clinics, Gynecological, Orthopedic and Adult Dental Clinics with part of the third floor comprising a twenty-bed observation ward for diagnostic purposes. The fourth and fifth floors contain commodious living quarters for graduate and pupil nurses connected with the management and training school of the Boston Floating Hospital.

The Boston Dispensary. With the completion of the Jackson Memorial Building the Hospital for Children now maintained by the Boston Dispensary will be transferred to the Boston Floating Hospital, and the entire space in the Dispensary will be utilized for clinic and administrative purposes. On the first floor will be the admission hall, record room, pharmacy, staff and students' coat and locker rooms, cancer, rectal and surgical clinics. On the second floor will be the Dean's offices, a large staff conference room. smaller conference rooms and a large and fully equipped pathological laboratory with facilities for bacteriological, chemical, pathological and serological work, as well as a research laboratory and research library. On the third floor will be the children's clinic, the x-ray department and a surgical operating suite. The fourth floor will contain business offices and children's dental clinic, the latter to be used for teaching children's dentistry in connection with the Tufts College Dental School. In the basement of the Dispensary Building will be genito-urinary and urological clinics as well as store rooms for general and pharmaceutical supplies.

HILBERT F. DAY, M.D.

MASSACHUSETTS LEGISLATIVE NOTES

HOUSE—NO. 977

An Act regulating the Conduct of Physicians and extending the Statute of Limitations relative to Actions against Physicians.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

Section 1. A physician shall not remove any organ or limb of the body from a patient without first obtaining consent of such patient, if the patient is mentally and physically capable of giving such consent; otherwise he shall obtain the consent of the patient's husband or wife or nearest available relative or of the patient's parents or guardian. If the patient is unconscious, whereby he could not or cannot know of any intended operation, and no relative, husband or wife or guardian is within call, the physician may proceed upon his own judgment.

Section 2. After the removal of such organ or limb the physician shall explain to the patient and husband or wife and relatives or guardian that it is their right to view the part removed from the body, and he shall give them a full explanation, alone, or

in the presence of any physicians they may choose, as to the necessity of such removal.

Section 3. A physician shall not handle or treat a patient in such a way as to cause pain to the patient without first explaining that pain will result from such handling or treatment and obtaining permission therefor from the patient, if an adult, or from the patient's parents or guardian if a child. This clause shall not apply to treatment the patient may have requested, such as osteopathic treatment or the proper testing of the heart, lungs and the like, or to cases where the patient might already be suffering anguish and the physician could by hand manipulation perform some absolutely necessary act such as replacing a dislocation or setting a bone, but shall prohibit such acts as tearing by hand or instrument or cutting of the flesh or the insertion of instruments, whereby the patient's rights as a free and sane individual are violated.

Section 4. Actions of contract or tort for malpractice, negligence, error or mistake, against physicians, may be commenced at any time within six years next, after the cause of action accrues.

Section 5. A physician violating any provision of this act shall be punished by a fine of not less than fifty dollars or more than five hundred dollars, or by imprisonment for not more than one year, or by both such fine and such imprisonment.

SENATE—172

This bill provides the methods to be employed in collecting the charges for the support of inmates in a State Sanatorium.

HOUSE—667

This bill provides for the raising and expenditure of two million dollars in addition to the sum already authorized for a hospital for the Middlesex County Tuberculosis Hospital District.

HOUSE—NO. 760

An Act making Vaccination Non-Compulsory.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

Section 1. No person shall be required to submit to any form of vaccination or inoculation as a condition precedent to admission to any school, institution of learning or public institution, nor to the exercise of any right, performance of any duty, or enjoyment of any privilege.

Section 2. Section fifteen of chapter seventy-six and section one hundred and eighty-one to one hundred and eighty-three, inclusive, of chapter one hundred and eleven of the General Laws and all acts in amendment thereof and in addition thereto are hereby repealed.

The foregoing bill will be opposed by the Joint Committee on State and National Legislation of the Massachusetts Medical Society and the Massachusetts Homeopathic Medical Society.

HOUSE—501

This bill is on petition of the Massachusetts Federation of Labor and seeks to have established a State fund for the compensation of employees injured in industrial accidents and also that employers may insure their own risks.

The different sections provide for the administration of the provisions of the act by the Department of Industrial Accidents and definitions of descriptive terms. The Department is given authority to appoint employees and agents as may be necessary to carry on the functions imposed and the establishment and maintenance of not more than ten branch offices.

The State board for vocational training shall aid persons whose earning capacity has been impaired by an industrial accident.

The Department shall fix the compensation or other relief to which employees of self-insurers shall be entitled and may terminate the right of an employer to be a self-insurer for cause.

Nonsubscribers to the state fund and those not authorized to act as self-insurers shall be liable for damages suffered by reason of personal injuries caused by the wrongful act of the employee. The self-insurers may elect to pay compensation and the expenses of medical, surgical and hospital as well as nursing care.

The Department shall fix the insurance rates and hear complaints with respect to claims which may be disputed.

The bill is long, complicated and is apparently drawn to cover all questions which may arise.

HOUSE—NO. 636

An Act to amend the Definition of "Pasteurized Milk."

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

Section one of chapter ninety-four of the General Laws is hereby amended by inserting after the word "Fahrenheit," in line one hundred and twenty-seven, the words:—or heated by the electric conductivity method for a period of not less than twenty seconds to a temperature of not less than one hundred and sixty degrees Fahrenheit in the milk entering the cooling system of the apparatus,—so as to read as follows:—"Pasteurized milk," natural cow's milk not

more than seventy-two hours old, when pasteurized, subjected for a period of not less than thirty minutes to a temperature of not less than one hundred and forty degrees, nor more than one hundred and forty-five degrees Fahrenheit, or heated by the electric conductivity method for a period of not less than twenty seconds to a temperature of not less than one hundred and sixty degrees Fahrenheit in the milk entering the cooling system of the apparatus, and immediately thereafter cooled to a temperature of fifty degrees Fahrenheit or lower.

MISCELLANY

THE MERGER OF THE NEW YORK POSTGRADUATE MEDICAL SCHOOL AND HOSPITAL AND COLUMBIA UNIVERSITY

The incorporation in the educational system of Columbia University of the New York Postgraduate Medical School and Hospital, the oldest institution in the United States engaged solely in the teaching of postgraduate medicine, was announced at the annual dinner of the Postgraduate Faculty Association held at the Biltmore Hotel on January 31.

President Nicholas Murray Butler of Columbia in an address declared that the affiliation "marked another long step forward in the development and strengthening of provision for medical study and research in the City of New York".

The agreement between the two institutions, effective July 1, 1931, said Dr. Arthur F. Chace, president of the New York Postgraduate Medical School and Hospital, makes the Postgraduate an integral part of the Columbia University teaching system and, in the future, the center of a comprehensive program of postgraduate medical teaching sponsored by Columbia.

To carry out the program for placing all of the postgraduate teaching on a university basis, provision for an interlocking of the governing bodies has been made. Dr. Butler has been elected a member of the Corporation and of the Board of Directors of the New York Postgraduate Medical School and Hospital. Dr. Butler also becomes president ex-officio of the Medical School of the postgraduate.

Dr. Chace has been elected president of the Postgraduate Medical School and Hospital to fill the vacancy caused by the retirement some time ago of Dr. James F. McKernon, who had occupied this post for twenty-five years. To coördinate the work of the postgraduate with Columbia University, an Administrative Board of Postgraduate Studies in Medicine, on which both bodies are represented, has been established.

"In Great Britain as well as in the United States," Dr. Butler declared, "the matter of making suitable provision for the needs of graduate students in medicine and for medical practitioners who desire to strengthen or advance their knowledge in some particular respect has become pressing.

"This question is discussed at some length in my Annual Report made to the Trustees of Columbia University on November 3 last, at which time the various types of student who look forward to graduate studies in the field of medicine were enumerated and described.

"Under the arrangement just effected, the Trustees of the New York Postgraduate Medical School and Hospital will remain solely responsible for its financial conduct and support. Its work in the field of higher medical education passes under the control of Columbia University, and becomes an integral part of the University's work.

"The whole field of graduate study in medicine as cultivated at Columbia, whether at the Medical Center, at the New York Postgraduate Medical School and Hospital, at Saint Luke's Hospital, at Mount Sinai Hospital, at the Montefiore Home, or elsewhere, will come under the immediate oversight of an Administrative Board on Graduate Studies in Medicine, whose work will be closely related to that of the medical faculty and which will be under the jurisdiction of the University Council. It is expected that the members of this new and important Administrative Board will be appointed in the near future."

Dr. Chace expressed the belief that the medical program being developed under Columbia's leadership will make New York City the center of graduate medical education in this country, and attract physicians from all parts of the world.

Linking the postgraduate study of medicine with university facilities for research will strengthen the work of the practicing physician, and shorten the period between new discoveries in medicine and their general application, he pointed out, asserting that, though medicine had made great scientific advances in the past twenty-five years, the benefits had not been so widespread as they might have been if the need for the continued education of the physician had been better recognized.

TESTIMONIAL DINNER GIVEN IN HONOR OF DOCTOR JAMES EWING

The presentation of the volume of the *Annals of Surgery* issued in honor of Dr. James Ewing was made the occasion of a testimonial dinner to Dr. Ewing, held in the Hotel Pierre, New York City, January 31, 1931 at 7:30 P. M. Approximately 450 doctors and a number of prominent laymen were present.

The program consisted of a series of short addresses covering Dr. Ewing's contributions to the various phases of work in which he has been interested. Dr. George D. Stewart acted as toastmaster. The speakers and subjects were:

Surgeon General Hugh S. Cumming: Dr. Ewing's Influence on Public Health Problems.

Howard Kelly, M.D.: Dr. Ewing's Contribution to American Medicine.

Livingston Farrand, M.D.: Dr. Ewing in Relation to Cornell University.

G. Canby Robinson, M.D.: Dr. Ewing's Contribution to Medical Education.

Thomas M. Debevoise, Esq.: Dr. Ewing's Influence in the Education of the Public on the Cancer Problem.

C. C. Little, Ph.D.: Dr. Ewing's Activities in the American Society for the Control of Cancer.

John A. Hartwell, M.D.: Dr. Ewing's Service to Surgery.

James B. Murphy, M.D.: The Influence of Dr. Ewing on Cancer Research.

Archibald Douglas, M.D.: The Influence of Dr. Ewing in the Development of Memorial Hospital.

Francis Carter Wood, M.D.: The Future of Memorial Hospital.

Burton J. Lee, M.D.: Reading of Excerpts from Testimonials to Dr. Ewing.

Frank E. Adair, M.D.: Presentation of the Volume "Cancer" — An International Tribute in Honor of James Ewing.

In response Dr. Ewing gave a brief but deeply impressive talk covering in short his ideas and ideals.

DR. GEORGE J. HEUER TO BE SURGEON IN CHIEF AT HOSPITAL

Dr. George J. Heuer, surgical director of the Cincinnati General Hospital and Holmes professor in the University of Cincinnati Medical College, has been appointed surgeon in chief of New York Hospital and professor of surgery in Cornell University to succeed Dr. Charles L. Gibson, who is retiring. Dr. Gibson has been a member of the Cornell Medical College faculty for more than thirty years and has been professor of surgery since 1918.

Announcement of Dr. Heuer's appointment was made yesterday by Dr. George Canby Robinson, director of the New York Hospital-Cornell Medical College Association. Dr. Heuer will enter upon his new duties July 1 and will devote his full time to work of organization, Dr. Robinson said. He will undertake the organization of the surgical department in the New York Hospital-Cornell Medical Association medical center to be located on the East River between 68th and 71st Streets, which is expected to be opened in 1932.—*New York World.*

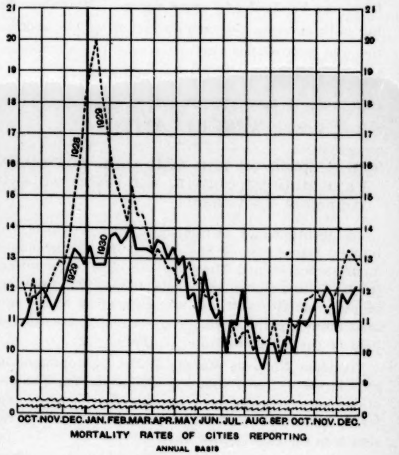
MORTALITY RATES

Telegraphic returns from 81 cities with a total population of thirty-six million for the week ending January 17, indicate a mortality rate of 14.0 as against a rate of 12.8 for the corresponding week of last year. The highest rate (21.0) appears for New Orleans, La., and the lowest (5.8) for South Bend, Ind. The highest infant mortality rate (13.0) appears for Spokane, Wash., and the lowest for Somerville, Mass., Springfield, Mass., and Youngstown, Ohio, which reported no infant mortality.

The annual rate for 81 cities is 13.8 for the three weeks of 1931, as against a rate of 13.0 for the corresponding weeks of 1930.

MORTALITY RATES IN CITIES OF THE UNITED STATES

The graph published below gives comparative mortality rates for the cities of the United States for 1929 and 1930 and is encouraging. The impression seems to prevail that more or less constant lowering of the death rate is being brought about by more general observance of wholesome methods of living.



PHYSICIANS REGISTERED BY THE MASSACHUSETTS BOARD OF REGISTRATION IN MEDICINE, JULY, 1930

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Ahern, John Joseph, 158 Orchard Street, Watertown, Mass.

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Anderson, Justin Leavitt, Lowell Corporation Hosp., Lowell, Mass.

Asekoff, Myer, Boston City Hosp., Boston, Mass.

Ash, Abraham, Cambridge Hosp., Cambridge, Mass.

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Berman, Harry Archer, St. Luke's Hosp., New Bedford, Mass.

Bishop, Aubrey Clarke, Salem Hospital, Salem, Mass.

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Borlenghi, Louis Nicholas, 1502 Main Street, South Weymouth, Mass.

Boyd, Phillips Leland, 9 Revere Street, Jamaica Plain, Mass.

Brennan, Charles Leo, 27 Sargent Street, Lowell, Mass.

Brosnan, John Francis, 9 Mattoon Street, Springfield, Mass.

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Bruce, James Graham, 820 State St., Springfield, Mass.

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Burns, Thomas, 419 Boylston Street, Boston, Mass.

Butler, Robert William, Lawrence Gen. Hosp., Lawrence, Mass.

Carr, John Otis, 14 Ingersoll Road, Wellesley, Mass.

Clapp, Ralph Sheldon, South Deerfield, Mass.

Comninos, Cyrus, Lister Bldg., Commonwealth Ave., Boston, Mass.

Crane, Edward James, Boston Sanatorium, Mattapan, Mass.

Dahill, William Joseph, 223 Broadway, Arlington, Mass.

DeWolfe, Henry Charles Mitchell, 2 Webster Street, Malden, Mass.

Dion, George Joseph, 76 Mt. Pleasant Street, New Bedford, Mass.

Duchin, Maurice Samuel, Brill Construction Co., 1252 Fulton Ave., New York, N. Y.

Dunn, Paul Edward, 228 Pleasant St., Gardner, Mass.

Easton, Edward Raymond, 116-E-58th Street, New York, N. Y.

Erickson, Milton Hyland, Worcester State Hosp., Worcester, Mass.

Evers, Madalene, 46 Ferdinand Street, Melrose Highlands, Mass.

Fein, Louis, 12 Somerset Street, Springfield, Mass.

Fineberg, Nathan Leonard, Mass. Memorial Hospitals, Boston, Mass.

Finkle, Fred, 24 Canterbury Street, Dorchester, Mass.

Foster, Gilbert Vincent, 287 Palmer Street, New Bedford, Mass.

Gagnon, Solomon, Danvers State Hosp., Hathorne, Mass.

Georgantas, Constantine, 106 Dakota Street, Dorchester, Mass.

Giallombardo, Nicholas P., 51 Jefferson Ave., Staten Island, N. Y.

Giobbe, Ciro, Carney Hosp., So. Boston, Mass.

Gobert, Solomon, 106 Meridian Street, East Boston, Mass.

Goldberg, Wilham Nathan, 50 Everett Ave., Chelsea, Mass.

Goldfarb, Robert Himan, 27 Allen Street, Boston, Mass.

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Heberle, Clement King, 75 Western Ave., Gloucester, Mass.

Hermanson, Abram Louis, Beth Israel Hosp., Boston, Mass.

Holzman, Daniel, 15 Abbottsford Street, Roxbury, Mass.

Isenman, Robert, Union Hospital, Fall River, Mass.

Karlsberg, Isador Joseph, 84 Erie St., Dorchester, Mass.

Kettle, Ronald Harry, McLean Hospital, Waverley, Mass.

King, Francis Gerald, St. Vincent Hosp., Worcester, Mass.

Kotarski, William Casimir, 80 Washington Sq., East Salem, Mass.

Leeder, Eli Emanuel, 183 Center St., Brockton, Mass.

Leeder, Frederick Saskatoon, 51 North Street, Pittsfield, Mass.

Littner, Max, Worcester State Hosp., Worcester, Mass.

Loesche, Frederick, 316 Newbury Street, Boston, Mass.

MacDonald, Joseph James, 65 Tremont Street, Brighton, Mass.

MacNicoll, Wilfred Thomas, Box 8, Waverley, Mass.

Makler, Mark Irving, 27 Newell Road, Brookline, Mass.

Mandell, Esrael, 639 Beach Street, Revere, Mass.

Mandeville, Leo Joseph, 22 John Street, Willimansett, Mass.

Menzies Marshall MacDonald, Harrisburg Hospital, Harrisburg, Pa.

Miller, Harold Francis, 36 Pleasant Street, Worcester, Mass.

Mirman, Joseph Myer, 107 Woodlawn Street, Springfield, Mass.

Mitchell, Charlotte Anne, Belchertown State School, Belchertown, Mass.

Mullane, Philip Edward, 163 Adawam Street, Lowell, Mass.

Neil, Richard Jones, Lawrence Gen. Hosp., Lawrence, Mass.

Nelson, Carl Olaf, 989 Washington Street, Gloucester, Mass.

Orlansky, George Jules Joseph, 1234 Blue Hill Ave., Mattapan, Mass.

Oskar, Paul Augustine, 18 Birch Street, Lawrence, Mass.

Palladino, Charles Alexander, 48 Stark Ave., Revere, Mass.

Pearlstein, Max, Boston City Hosp., Boston, Mass.

Peasley, Elmus Day, Truesdale Hosp., Fall River, Mass.

Pelkus, Henry Leo, Maine Gen. Hosp., Portland, Me.

Poutas, John James, 67 Lawrence Street, Waltham, Mass.

Quinlan, Joseph David, 74 Highland Ave., Malden, Mass.

Robb, George Porter, Huntington Mem. Hosp., Boston, Mass.

Rogers, Augustine Thomas, Maine General Hosp., Portland, Me.

Ruggles, Roger Lee, 56 Hillside Street, Dorchester, Mass.

Scarcello, Nicholas Salvatore, Cambridge Hosp., Cambridge, Mass.

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Shawstack, Irving, 16 Michigan Ave., Dorchester, Mass.
Silverman, Eli, 90 Columbia Rd., Boston, Mass.
Stoller, Louis William, 62 Queensberry Street, Boston, Mass.
Sweeney, Joseph Daniel, 21 St. James Street, Lowell, Mass.
Tannebaum, Israel Samuel, North Hudson Hospital, Weehawken, N. J.
Thompson, Walter Anderson, Box 8, Waverley, Mass.
Thornton, John Joseph, 1530 Columbia Ave., So. Boston, Mass.
Ward, James Martin, Boston City Hosp., Boston, Mass.
White, J. Louis, Centre Street, Hyannis, Mass.
Whitney, Percy Theodore, Mountainside Hosp., Montclair, N. J.

PHYSICIANS REGISTERED BY THE MASSACHUSETTS BOARD OF REGISTRATION IN MEDICINE, NOVEMBER, 1930

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Finkle, Louis, Bridgewater State Hosp., Bridgewater, Mass.
Foy, Jack Ng, c-o Coll P & S, 630 W. 168th Street, New York, N. Y.
Freeman, Perrin Newell, Worcester City Hospital, Worcester, Mass.
Gaynor, Martin Francis, Hartford Hospital, Hartford, Conn.
Geran, William Francis, Mercy Hospital, Springfield, Mass.
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Howard, Allen Richmond, Westwood Lodge, Westwood, Mass.
Hurlburt, Alton Lyman, House of Mercy Hosp., Pittsfield, Mass.
Hurwicz Daniels, Marie, Holyoke Hospital, Holyoke, Mass.
Jeffrey, Thomas Joseph, 8 Central Street, Winthrop, Maine.
Jones, David Edward, 1666 Commonwealth Ave., Brighton, Mass.
Krausz, Marguerite, 19 Hemenway Street, Boston, Mass.
Lagerstedt, Edward William Howard, 847 So. Montello Street, Brockton, Mass.
LaSalle, Arthur Oscar, Southside Hospital, Bay Shore, L. I., N. Y.
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Marcoux, Ernest Arthur, 98 Winthrop Street, Cambridge, Mass.
Miles, Isabel Augusta, 48 Byron Ave., Brockton, Mass.
Milstein, Abraham, 34 Evelyn Street, Mattapan, Mass.
Muellner, Salomo Richard, Beth Israel Hospital, Boston, Mass.
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Quinn, Thomas Francis, 631 Monroe Ave., Dunmore, Penn.
Radcliffe, Ernest James, 62 Pleasant Street, Amherst, Mass.
Reid, Howard Stanton, 287 Main Street, Franklin, Mass.
Reiss, Herman Nades, 253 Washington Pk., Brooklyn, N. Y.
Rosenthal, Arthur Oscar, Perth Amboy City Hospital, Perth Amboy, N. J.
Smith, Bertha Camp, 85 East Street, Pittsfield, Mass.
Smith, Marjorie Katherine, Medfield State Hospital, Harding, Mass.
Steinberg, Israel, 568 Haverhill Street, Lawrence, Mass.

Steinecke, Olga Emma, State Hospital, Taunton, Mass.

Strong, Archibald McIntyre, Stockbridge, Mass.

Sumberg, Elizabeth Hermina, 65 Bridge Street, Dedham, Mass.

Twarog, Walter Louis, Lowell General Hospital, Lowell, Mass.

Ullian, Hyman Bertram, 26 Carmel Street, Chelsea, Mass.

Weiksner, Francis Alexander, Hudson Heights, New Jersey.

Wilder, Grace Evelyn, Essex Sanatorium, Middleton, Mass.

Wilkinson, Samuel Allen, Jr., 1333 South Fifty-Seventh St., Philadelphia, Pa.

Zannini, Nicholas, 23 Turner Street, Lawrence, Mass.

Ziter, Fred M. H., 233 Carew Street, Springfield. Mass.

Commonwealth of Massachusetts

Board of Registration in Medicine

SYNOPSIS OF NOVEMBER, 1930, EXAMINATION

	Registered	Rejected
Mass. College of Osteopathy	8	10
Middlesex	20	7
Missouri College of Medicine & Science	1	1
Kansas City Univ. of Phys. & Surgeons	1	9
Des Moines Still College of Osteopathy	1	
University of Naples		1
Dalhousie University	1	
Kirksville College of Osteopathy & Surgery	1	1
Philadelphia College of Osteopathy	4	1
Boston College of Physicians & Surgeons	2	3
Tufts	13	
University of Pennsylvania	1	
University of Stephen	1	
Harvard	7	
Johns Hopkins	1	
College of Phys. & Surgeons of Columbia Univ.	2	
University of Vermont	3	
University of Chicago	1	
Cooper Medical College	1	
Boston University School of Medicine	4	
Medical College of Virginia	1	
University of Georgetown	2	
University of Louisville	2	
University of Toronto	2	
McGill	1	
Chicago Osteopathic College		1
University of California	1	
St. Louis University	1	
Manitoba University	1	
	84	34

1 Tufts on consideration

NATIONAL BOARD OF REGISTRANTS SINCE LAST REPORT

Cope, Oliver, Mass. General Hospital, Boston, Mass.

Crump, George Curtis, Trudeau Sanatorium, Trudeau, N. Y.

Edwards, Edward Allen, Boston City Hospital, Boston, Mass.

Frackelton, Ralph James, 40a St. Paul Terrace, Brookline, Mass.

Franz, Adolph, Jr., 266 Maple Street, Holyoke, Mass.

Gant, Julian Carrel, New England San. & Hosp., Melrose, Mass.

Gayl, Joseph Cary, Beth Israel Hospital, Boston, Mass.

Goldman, Douglas, Huntington Hospital, Boston, Mass.

Keefer, Chester Scott, Boston City Hospital, Boston, Mass.

Linton, Robert Ritchie, Mass. General Hospital, Boston, Mass.

Pittman, Helen Sinclair, 234 East 79th Street, New York, N. Y.

Rudd, Jacob Louis, Station Hospital, Fort Banks, Winthrop, Mass.

Stewart, Roger Eaton, 110 Dudley Road, Newton Center, Mass.

Thurmon, Francis Mozart, Boston Dispensary, 25 Bennet Street, Boston, Mass.

Vestal, Paul William, 605 Commonwealth Ave., Boston, Mass.

TUBERCULOSIS ABSTRACTS

ISSUED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

What rôle does calcium play in the healing of tuberculous lesions? Does the deposit of calcium hasten the reparative process or does it but replace destroyed tissue? No other mineral element has been so thoroughly investigated in tuberculosis research as calcium. Attempts to influence the course of tuberculosis by the therapeutic use of calcium have repeatedly failed. But more recent knowledge about nutrition and heliotherapy has revived interest in the subject. Calcium metabolism is undoubtedly influenced by vitamins and by certain rays of the solar spectrum. A general review of the calcium question should be helpful in evaluating the claims and theories of recent writers. The following notes are derived from the November, 1930, *American Review of Tuberculosis* in an abstract of a paper by R. Monceaux in the *Revue Belge de la Tuberculose.*

CALCIUM EXCHANGE IN PULMONARY TUBERCULOSIS

Boyer, in 1869, declared that the lung undergoes a decalcification in phthisis, but it is chiefly to Ferrier that latterly accepted theories are to be credited. Ferrier's experiments were crude and his evidence was not convincing, but he added other arguments that had to do with the relation between dental caries and bony demineralization, the calcium reserve, and other suggestive observations. Most French authors contend that decalcification begins in the early stages of tuberculosis and disappears in

advanced cases. This they determined simply by estimating the amount of calcium excreted in the urine. Robin gives the normal urine calcium as 0.281 gms. per day.

COMMENT ON DECALCIFICATION THEORY

To consider only the degree of calcuria is very misleading for it may vary from 0.16 to 0.69 gms. on an identical regimen. In fact, most of the calcium is ordinarily excreted in the feces. The only really scientific method of estimation is to determine the calcium balance or relation between tetal intake and output. This has been done in tuberculous patients, at rest and on a measured ration, and a negative balance was found in certain patients in whom active disease caused wasting. In these cases, a dose of 2 gms. calcium oxide per day was necessary to compensate the loss. Except for these conditions, tuberculous persons behaved about normally and consumed daily about 1.5 gms. calcium oxide. Hence, it was concluded that decalcification is not a specific characteristic of tuberculosis but is associated only with denutrition. One investigator even found positive balances in a number of tuberculous persons.

Ferrier declared that dental decalcification went hand in hand with body decalcification. Others have been unable to confirm this, and Villemin pointed out that in rachitic children dental lesions were rare.

Barkus was unable to determine any loss or any increase of calcium as cure occurred and in guinea-pig experimental tuberculosis could not demonstrate any diminution of calcium. Others even found an increase in animal necropsies, and some have shown that the calcium content of organs varies with the physiological state.

CALCIUM IN THE BLOOD

Recent studies have been made on the blood calcium. Tuberculosis *per se* causes no lowering of blood calcium. Hemoptysic patients with prolonged coagulation time showed slightly lower concentrations but the differences were slight. The normal variations are from 9.22 mg. per 100 cc. serum to 10.78 mg. From 120 to 130 mg. per litre were found even in cavity and bronchopneumonic cases. The tuberculous blood is not impoverished in calcium. Moreover, variations, when they exist, are dependent on cachexia and alimentary insufficiency.

RECALCIFICATION

In spite of these objections, the dogma has been reiterated that the great curative principle in tuberculosis is recalcification. This is carried out (1) by administering calcium phosphate and other salts and (2) by instituting a diet regimen. The only demonstrable advantage of calcium medication is that it may act favorably on the stomach, which often in the tuberculous shows hyperchlorhydria. Calcium lactate given by mouth does not increase the blood calcium, nor will a calcium-rich dietary increase tissue calcium. In fact, in the tuberculous, calcium chloride or lactate may even increase calcium loss, especially the chloride. The glycero-phosphates and carbonates are not assimilated at all and even increase calcium loss. Phosphorus and calcium have a certain optimum relation, realized in the tuberculous when there is a slight excess of calcium. If this is exceeded, there is a tendency to the formation of insoluble calcium phosphate, which is eliminated by the intestine—therapeutic decalcification. Calcium therapy might be useful when there is insufficient alimentary calcium, as in Germany during the War, but metabolic disorders cannot be combated; that is, the organism cannot be made to fix calcium. Superfluous quantities are rapidly precipitated in the tissues for the blood is normally physiologically saturated.

FIXATION OF CALCIUM

It was believed that the addition of adrenalin would solve the problem, and two workers diminished calcuria under this regimen. However, these results have been questioned and it has been shown that there is always a corresponding intestinal debit. Solar ray, ultra-violet radiation, and vitamin A have been used but without effect. In rickets, only the ultra-violet rays and cod liver oil containing vitamin A protected animals, but this condition differs essentially from tuberculosis.

CALCIFICATION OF TUBERCLES

Calcium deposits in tubercles have been accepted as obvious proof that calcium plays a defensive rôle by walling off bacilli. However, calcium salts are only deposited in necrotic tissue. Calcium does not precede nor favor cicatrization of lesions and probably does not even arrest the progress of lesions. It is much more probable that calcification follows rather than effects a cure. In bovine tuberculosis, large quantities of calcium are deposited in and about progressive lesions. Also, bony tissue offers no special resistance to tuberculous infection.

Individuals who breathe lime dust all day possess a special resistance to tuberculosis. This is incontestable. But its action may well be a simple mechanical one, simulating sclerosis.

Calcium salts do not inhibit the development of the tubercle bacillus; on the contrary, they often favor growth on culture media. Neither has any favorable effect been noted in tuberculous animals.

CONCLUSIONS

If there is no decalcification, still the tuberculous need a little more lime than normal persons to maintain a favorable balance. Calcium may stimulate phagocytosis and certain other favorable reactions. However, intensive calcium therapy, on the basis of the foregoing work, must be rejected as useless. Nature furnishes abundant calcium, especially in water, milk, eggs, and legumes. The best alimentary medium is milk, of which 0.5 litre per day, with leguminous purées or eggs, suffices. Articles which tend to precipitate calcium in the form of oxalates—rhubarb, sorrel, cocoa, endive—should be avoided. If in the presence of food rich in calcium it is not assimilated, the organism is at fault physiologically. This is often the case in tuberculosis, especially when oxidation is impaired, with a resultant tendency to humoral acid-

ity. In such cases, phosphoric acid may be given, which indirectly favors retention of calcium. The bi-phosphates and lactophosphates can also be used.

Basic Feeding in Tuberculosis

Mayer and Kugelman, in a preliminary report on "Basic (Vitamin) Feeding in Tuberculosis," *Journal of the American Medical Association*, December 14, 1929, attempt to evaluate the special dietary regimen for tuberculous patients advocated by Sauerbruch and Gerson. They declare that dogmatic statements are not yet warranted but admit that the favorable results observed in about one-third of the patients studied may perhaps be attributed to the effect of the dietary.

The authors maintain that the special dietary is an alkali-forming one and not acid-forming as the Germans contend. Experimental studies on the effect of acid and base-forming dietaries in rats show that animals on the base-forming dietary throve to a maximum degree, grew rapidly, and were more active than those on the acid-forming diet. Similar studies on patients showed that the acid-base equilibrium shifted toward the basic side on base-forming diet. They believed that the inorganic constituents and the vitamins are the favorable factors and that the vitamins are the more important. The absorption and utilization of minerals depend on the vitamins present in the alimentary tract.

CORRESPONDENCE

COMMENTS INSPIRED BY THE LETTER OF DR. SAMUEL DELANO

Mr. Editor,

If my account of "Two Suggestive Clinical Experiences," in the November 27 issue of the *Journal*, really calls for the additional data which Dr. Delano speculates upon in his letter in the January 29 issue, I am glad to furnish it.

For information, then, I will say:

1—The treatment given to all the typhoid cases was the same. It is the only treatment I have ever known for this disease, and I first read it in the eighth edition of Osler's *Principles and Practice of Medicine*.

2—No "chemicals" were used in this treatment, much less "five, three of them intravenously" as the doctor may infer.

3—What I said about the diagnosis was that it was made "either by blood culture or by changing agglutinating titre of the blood serum for typhoid bacilli". Either of these methods is quite as good as necropsy, and distinctly quicker.

4—I did mention that two of the seven cases had no symptoms, but whether I "included" them, as Dr. Delano says I did, may be judged by the following excerpts: "All of the remaining five men were ill. . . . Of the five, one, Mr. H., . . . The temperature curves of these five men appear in the chart . . . The heavy curve is that of Mr. H., . . . The other four . . . ." etc.

5—My chief interest in the scarlatina case was not "that the same bacillus (sic) produced two different broods", but that the same coccus fell on two different soils, and produced thereby, two clinically separate diseases.

In so far as Dr. Delano's specific queries concern the clinical judgment used in handling these cases, I will simply answer them with the confession that my judgment never has been so good as I could wish it. Nevertheless it has many times been improved by contacts with members of the generation to which Dr. Morse and my correspondent belong. For these contacts I am sincerely grateful.

Very truly yours,

Dwight O'Hara.

520 Commonwealth Avenue, Boston, Mass.
January 31, 1931.

THE PROTECTION AFFORDED BY VACCINATION

The Commonwealth of Massachusetts
Department of Public Health
State House, Boston

January 21, 1931.

Editor, *New England Journal of Medicine:*

As a result of the laws requiring vaccination of all public school children, smallpox is fortunately a rare disease in Massachusetts. Each year at the time of the legislative hearing, those who would remove the compulsory feature from our present laws attempt to show that vaccination does not in reality protect against smallpox. It may be of interest therefore to call to the profession's attention the circumstances surrounding the development of six cases of smallpox in Williamstown during the past month.

Mr. V. left Staatsburg, New York, on December 19, at which time he was suffering from an unrecognized, mild attack of smallpox, and had a rash on his face. At 2 o'clock on the morning of December 20, he arrived at the home of his sister, Mrs. M. in Bennington, Vermont, remaining there until 7.00 A. M., when he took a bus and proceeded to Williamstown.

The M. family comprises Mr. and Mrs. M. and two children, aged 21 and 20 respectively. Of the four members of the family, only the parents had been vaccinated. On December 31, both the children became ill with smallpox. At this date, January 21, the two vaccinated adults are still free from smallpox, despite the fact that the children are being cared for at home.

Arriving in Williamstown, Mr. V. went to the home of his wife's mother, Mrs. N. The N. family consists of Mrs. N. and five children, the oldest being 28 years and the youngest 9 months. All except the baby had had chicken pox. The four oldest children had managed to evade the school vaccination law by obtaining each year exemption certificates from a physician in a nearby city, and were therefore unvaccinated, as was also the baby, age nine months. Mrs. N. had been vaccinated 27 years ago and showed a definite scar. The five children all came down with smallpox, the four older children between December 31 and January 4, and the baby on Jan-

uary 15. At the present time, January 21, Mrs. N. is still free from smallpox, despite the fact that she is nursing five cases in a small house.

On the night of December 20, while visiting in Williamstown, Mr. V. attended a private dance at which there were 35 guests. Of these 35, only one, Mr. H., had never been successfully vaccinated. He came down with smallpox January 5. The remaining 34 are still free from the disease some four weeks later. Twelve of the vaccinated guests came from four nearby towns, which towns are still free from smallpox.

In the present instance, therefore, we have the record of known intimate exposure of forty-five persons to a case of smallpox. Of these persons, thirty-seven had been vaccinated and all escaped the disease. All of the remaining eight, who had never been vaccinated, developed smallpox. Certainly there can be no better demonstration of the protection which vaccination affords against smallpox.

Yours truly,

GEORGE H. BIGELOW, M.D.,
Commissioner of Public Health.

THE NEW ENGLAND MEDICAL CENTER

To the Editor of the *New England Journal of Medicine:*

The actual beginning of "the New England Medical Center" was dramatically signalized when the oldest country doctor in New England, Dr. Merritt H. Eddy, 98 years of age, came down from Vermont to lay the corner-stone. It has been stated that one of the main objects of "the New England Medical Center" is to provide country doctors for New England towns, and these doctors were largely to come from the graduates of the Tufts College Medical School, preference being given to applicants from New England. If such is the object, as laudable as it may seem, I believe it is doomed to failure.

In a recent memorial to a very worthy country doctor in Vermont occurs this significant statement, "There is no question that 'the country doctor' is passing." If this, as it appears to be, is the case, is there not good reason why this should not happen in the general advance and progress of medical science? I believe that something better is to take the place of the old-time family practitioner, but I do not believe that it will be accomplished by trying to replace what we have known as the "country doctor". After a student of medicine has spent seven to eight years in preparing himself for practice, at a large expense of time and money, he will rarely be willing to take up an ordinary country practice and establish his home in a small community. Furthermore, having been trained at a first-class medical school, he has learned the necessity of near-by facilities of a well-equipped hospital. He knows that he cannot in many cases make an accurate diagnosis without the aid of laboratory and x-ray facilities, and therefore, besides the other reasons, he is unwilling to go into the country where these facilities are not readily available. In my service as teacher at the Tufts College Medical School for the last twenty-five years, I have met many of my old pupils in different parts of the country, but I have found few who have settled as country doctors. Therefore, in the march of time and progress, it will not avail much to look "mournfully upon the past" of the country doctor, but to see how his place can be better filled through better knowledge of medical science and treatment. Many suggestions have been offered; the first requisite is to supply everyone, rich and poor alike, with modern medical service. This, it seems to me, might be done through smaller medical centers throughout New England, at which centers there should be a well-equipped hospital with a lying-in department and with a high-grade medical personnel. Such a center could easily, it seems to me, serve an area within a radius of ten or fifteen miles through the present system of good roads, the automobile and telephone. Doubtless other plans of affording adequate medical service to everyone can be suggested—but one thing seems evident to the observant modern physician, and that is that the country doctor as he existed previously is fast passing and times and conditions having changed, it is well that it is so—although we take off our hats to him as he passes with bowed shoulders but head erect.

If, however, the New England Medical Center in Boston can send out well-trained physicians and surgeons, to occupy these smaller centers, it will materially aid in the transition which is now going on in the status of the country doctor and will accomplish a great object.

There is always sadness in the passing of the old and honorable order, but at the same time, we cannot but rejoice in the coming of a new and better one.

EDWARD O. OTIS, M.D.,
Professor Emeritus Tufts College Medical School.

DIABETES MELLITUS

A DIAGNOSTIC SIGN

Editor, *New England Journal of Medicine:*

In all recent textbooks and papers on diabetes mellitus the consideration of symptoms has been buried under an avalanche of exhausting studies of its pathology and treatment, and rightly so. Yet all clinicians are impressed with the lack or absence of well-defined symptomatology in many cases of even moderately advanced diabetes mellitus.

There is one sign that, when present, is always diagnostic of diabetes mellitus. That is a brownish, "tobacco-stained-like" discoloration of the mustache in males, or of the hair at the scalpo-facial margin in males and females. It occurs in an area irregular in size, but usually of approximately four to ten cm. in length by an irregular width of about two cm. This sign is most frequently met with in those diabetics with gray hair. In eighty per cent. of suspected diabetics presenting this phenomenon, glycosuria and hyperglycemia were present. In the remainder sugar was found in the blood but not in the urine.

Surely such a symptom is of inestimable value to

the clinician who can only have blood and urine examinations made when some special indication presents itself. However, no mention of this fact could be found in the literature, though it has occurred in five per cent. of the diabetics seen.

HAROLD NEIFELD, M.D.

167 Willoughby Street, Brooklyn, N. Y.

NOTE: Only whites were studied; hence the value of this sign in the colored races must be left for future observation.

ARTICLES ACCEPTED BY THE AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

535 North Dearborn Street, Chicago, Ill.
January 31, 1931.

Managing Editor, *New England Journal of Medicine:*

In addition to the articles enumerated in our letter of December 27 the following have been accepted:

Abbott Laboratories

Ampules Gold Sodium Thiosulphate-Abbott, 0.01 Gm.

Arlington Chemical Co.

Grass Mixture No. 1 Pollen Extract-Arlco (Timothy, June Grass, Orchard Grass, Red Top, in equal parts); Grass Mixture No. 2 Pollen Extract-Arlco (Timothy 40 per cent., Orchard Grass, Red Top, and Sweet Vernal Grass, each 15 per cent.); Grass Mixture No. 3 Pollen Extract-Arlco (Bermuda Grass and Johnson Grass in equal parts); Ragweed Dwarf and Giant Mixture Pollen Extract-Arlco (equal parts of each); Birch Mixture Pollen Extract-Arlco (White Birch, Black Birch, Yellow Birch in equal parts); Maple Mixture Pollen Extract-Arlco (Red Maple, Ash-leaved Maple, Norway Maple, Sugar Maple in equal parts); Oak Mixture Pollen Extract-Arlco (White Oak, Red Oak, Black Oak, Swamp Oak in equal parts)

Fairchild Bros. & Foster

Liver Extract—Fairchild

Eli Lilly & Co.

Tablets Amytal, ¾ grain

H. A. Metz Laboratories

Sulpharsphenamine-Metz, 0.75 Gm. Ampules
Sulpharsphenamine-Metz, 0.9 Gm. Ampules
Sulpharsphenamine-Metz, 3.0 Gm. Ampules

G. D. Searle & Co.

Procaine Borate-Searle

Ampules Procaine Borate and Epinephrin 1 cc.

Yours truly,

W. A. PUCKNER, *Secretary,*
Council on Pharmacy and Chemistry.

NOTICES

MEDICAL CLINICS AT THE PETER BENT BRIGHAM HOSPITAL

At 3:30 P. M. on Thursdays, February 12 and 19, in the Amphitheatre of the Peter Bent Brigham Hospital, medical clinics will be given by Dr. S. A. Levine, to which physicians are cordially invited. Subsequent clinics will be conducted on Thursday afternoons by Dr. Henry A. Christian as previously.

RADIO MESSAGES

Courtesy WBZA

SPONSORED BY THE STATE DEPARTMENT OF PUBLIC HEALTH

Every Wednesday at 5.20 P. M.

Program ending February 25, 1931.

February 11—"Heart Disease", Dr. Richard Cabot.

February 18—"Age and Cancer", Dr. Shields Warren.

February 25—"The Laboratory in Medicine and Surgery", Dr. William A. Hinton.

The Department of Public Health will tell the radio audience about its various activities every Friday—12:30 to 12:40 P. M.

"Health Forum"

Directed by the State Department of Public Health. Courtesy WEEI every Friday at 4:50 P. M. Queries and Answers will be broadcast.

Questions on health and prevention of disease may be sent to:—"Forum", State Department of Public Health, State House, Boston, Mass.

REPORTS AND NOTICES OF MEETINGS

THE NEW ENGLAND HOSPITAL ASSOCIATION

The New England Hospital Association held its ninth annual meeting at the Copley-Plaza Hotel on January 15, 16, and 17, 1931. About 100 members attended. The program was as follows:

Thursday, January 15, 6:00 P. M.—Informal dinner, followed by an informal theatre party.

Friday morning—Registration was followed by the official opening of the conference by the President, Miss Miriam Curtis, Supt., Cooley Dickinson Hospital, Northampton, Mass.

The first paper was presented by Miss Ida M. Cannon, Chief of Social Service, Massachusetts General Hospital, Boston, Mass., her subject being: "New Developments in Medical Social Service." Her theme referred to the unpaid medical social worker who has extended her activities from the charity class to the patients of moderate means, and whose chief need is advice as to where to find immediate resources. Sometimes only advice is needed. Sometimes it is necessary to steady the family through the period of misfortune. The performance of this work is welcomed by the doctors, who frequently ask for it in outside cases.

Miss Cannon read and discussed President Hoover's recent proclamation regarding Child Welfare Conferences at the White House. She stressed the

neglected importance of an integrated coöperation between the medical and social worker.

The paper was then opened to discussion by members.

The next paper, "Some Accounting Problems for the Hospital Executive" was given by Mr. Percy Gleason, C. P. A. These problems were listed as:

1. Entry of the patients' charges. Under this was proposed that the charges should be entered each week for the following week, gauging by what they were in the week preceding.

2. Abatements. The importance of recording these and figuring them on the entry was emphasized as discouraging loose-ends, and protecting the hospital and bookkeeper.

3. Analysis of cost. Ascertainment of the cost of a new unit should include not only the cost of installation but the cost of maintenance.

4. Budgets are becoming more and more important. Their special value is in discouraging needless extravagance.

5. Depreciation should be expressed in the records and charged in the expenses.

6. Contributions for specified purposes should be included in the accounts but should be accepted only on the condition that the hospital should not be required to expend unwisely in order to follow specifications.

The discussion was led by Mr. J. Chester Crandell, C. P. A. Treasurer, Salem Hospital, Salem, Mass.

The next paper was read by Mr. James A. Hamilton, Supt. Mary Hitchcock Hospital, Hanover, N. H., on "Organization and Selection of Personnel."

He stressed the importance of system in organization. Points emphasized were: responsibility of each position must be clearly defined. Discipline must be kept in the hands of a responsible person. Allocation of duties should be equal and not disproportionate, and provision for coördination and for the unexpected should be made.

In the selection of personnel, much waste can be avoided by a classification and analysis of jobs and by the use of employment tests. The discussion was led by Mr. Scott Whitcher, Supt., St. Luke's Hospital, New Bedford, Mass.

A round table discussion was then held before the meeting adjourned for luncheon.

Following the luncheon Dr. William Darrach, Dean of the College of Physicians and Surgeons, New York City, spoke on "Recent Work of the Grading Committee."

He stated that the Committee on the Grading of Nursing Schools was appointed some years ago by the American Medical Association. To secure a joint attack on the problem it is requisite that its members should be drawn from seven national organizations. Before grading could be done it was necessary to find out what was needed in the way of nursing service. A large number of questionnaires were sent to physicians, nurses, bureaus, hospitals, etc. Replies indicated that: the number of nursing schools has risen as the number of medical schools has dropped. A similar change has been effected in the relative number of graduates. Overproduction of nurses is necessary because 29 per cent. of nurses drop out in the first four years after graduation, the average professional life being, however, seventeen years. Unemployment has been increasing in the last 6 years, although an unequal distribution causes an excess demand in some districts. The average wage is $6 per day. Annual income $1600 for private nursing, $2000 institutional—tends to increase with years of service.

The qualities doctors want in nurses are: skill, adequate general care, detailed observation, ability to follow orders, and good personal background. Eighty-four per cent. prefer graduate nurses and 16 per cent. practical nurses ($5 per day).

The report will be in three sections: (1) student body, (2) educational factors, (3) administrative problems. In dealing with the first section 94,000 pages, and 945,000 annotations were required. Results:

1. Student body. Twenty-five per cent of schools had a student body of 22 or less; 50 per cent. 37 or less; 25 per cent. more than 63. The daily average of patients was 75 or less in 50 per cent., 42 or less in 25 per cent.

In 45 schools, changes in administration have been so frequent, that students had been there longer than supervisors. Age of students: 7 per cent. were 16-17 years, 7 per cent. 25+, 59 per cent. 18-19, 60 per cent. were high school graduates—an increase over that in 1890 but not concomitant with increase throughout the country.

2. Educational factors. Fifty-nine per cent. of students are on duty 8 hours a day; 50 per cent. spend no time in class or study on days of duty; 3.365 engage in making surgical supplies; 91 per cent. are given a 36-month course; 98 per cent. have a preliminary period of training; 46 per cent. are nonaffiliating.

The standard educational program in the curriculum made out by the Committee is 345 hours of theory, 240 of practice in the preliminary period; amounting to 885 of theory and 6,120 practice in the course. Teaching responsibility on individuals is excessive. Sixty-four per cent. of the care of patients is supplied by students. Percentage of student nurses in charge of wards is large. The hours of potential care of bed patients averaged four. The type of experience was very varied.

3. Administration. Fifty-eight per cent. of superintendents were nurses, 19 per cent. doctors, 3 per cent. educators, the rest business men; 44 per cent. held their positions 3 years or less; 86 per cent. had no budget. Average salaries: $2520 for superintendents, and $1060 for floor duty.

Dr. Darrach stated that this was first a fact-finding committee, observing, studying, and comparing. The Committee does not expect to draw final conclusions until sufficient data have been acquired. At present it publishes facts that others may study, and analyze. The hope is for a balance between the care of the sick

and the training of the nurse. The function is to study ways and means of providing nursing service of necessary qualifications for the care of the patient at a price within his reach.

The meeting was then opened to general discussion.

The afternoon session, presided over by Miss Bertha Allen, Supt., Newton Hospital, Newton, Mass., was opened by a resolution, presented by Dr. J. B. Howland, in memoriam of Dr. Harold Waters Hersey, Supt. Springfield Hospital, past president of the association.

The first paper was "The Value of Postgraduate Courses to the Nurse and to the Hospital", read by Miss Margaret E. Conrad, Principal, School of Nursing, New England Hospital for Women and Children, Boston, Mass. The points mentioned were: 1. Increase of earning capacity due to special training. 2. Better teamwork between nurses and doctors. 3. More efficient treatment for patients. 4. Advantage to hospitals of a staff of graduate students. 5. Difficulties and possibilities of the wise selection of students. The discussion was led by Miss Alice Bowlby, Supt. of Nurses, Providence Lying-In Hospital.

The next paper, "The Cost of Nursing Service", was presented by Mr. James Mays as prepared by Mr. Charles F. Neergaard, Hospital Consultant of New York City. He reported that surveys indicate that the cost of nursing service per patient per day averages $2.00 in a hospital with a training school; $2.53 in a hospital using only graduate nurses.

The discussion was led by Miss Frances West, Supt., Charlotte Hungerford Hospital, Torrington, Conn.

The next paper, "Group Nursing in Small Hospitals", was read by Miss Lucy Abbott, Supt. William Backus Hospital, Norwich, Conn. The conclusions reached were that general staff duty is more feasible in small hospitals.

The meeting was then opened for round table discussion before adjournment.

The evening meeting was featured by a banquet at which Dr. Lewis A. Sexton, President, American Hospital Association, Supt., Hartford Hospital, Hartford, Conn., presided. The entertainment was provided by Howard Cleaves, showing official films "With Pinchot in the South Seas".

The Saturday morning meeting was called to order by Dr. William O. Rice, Asst. Director, Rhode Island Hospital, Providence, R. I. The first paper was by Miss Marion D. Floyd, B.S., Head Dietitian, Massachusetts General Hospital, with a paper on "Menu Planning for Hospitals". This subject demands a consideration of the essentials of the normal diet. Meals should be built around the protein dish. Variety is attained by contrasts. The aesthetic appeal is important and the tastes of the clientele should be met where possible. The discussion was led by Miss Leslie Hunter, B.S., Dietitian, Bridgeport Hospital, Bridgeport, Conn.

The next paper entitled "New Features of Hospital Planning, Construction, and Equipment" was presented by Dr. Joseph B. Howland, Director, Peter Bent Brigham Hospital, and discussed by Dr. Henry M. Pollock, Supt., Massachusetts Memorial Hospitals, Boston who brought out an informative discussion of important details.

"The Value of Flat Rates" was discussed by Dr. Thomas S. Brown, Supt., Mary Fletcher Hospital, Burlington, Vt. It was concluded that while flat rates look attractive, and maybe advisable, for the hospital they are often unfair for the patient.

Discussion preceded adjournment for luncheon.

Reports of committees followed the luncheon. Election of officers was held with the following result:

President—Mr. James A. Hamilton.

Secretary—Miss Bertha Allen.

Treasurer—Dr. J. M. Reece.

"A Ten Months' Demonstration of the Hospital Care of People of Moderate Means" was reported by Dr. Frederic A. Washburn, Director, Massachusetts General Hospital. The chief features of his remarks are as follows:

In 1925 one million dollars was left for this purpose and eight hundred thousand additional was raised by popular subscription. In order to keep rates down by wide distribution of overhead expenses a unit of 330 beds was decided upon. No account is taken of interest on the investment, or depreciation of buildings. The cost of special nurses is saved to 85% of the patients by prohibiting employment of special nurses unless continued care is needed. The staff coöperates under an agreement to limit fees. No patient is admitted to the Baker Memorial who is able to go to the Phillips House.

The hospital provides instruments, nurses, anesthetists, house officers, residents and laboratory facilities for the doctor and collects his bill. He is pleased as he thus gets as pay patients some who were formerly forced into the general wards. A larger percentage of his bills are collected than he collects from his outside patients.

One hundred and ninety beds are now available but this number may be increased as the need arises. Total number of patients thus far is 1973. Average number per day 87. Patient days 26,315. Average days in hospital 13. Fifteen per cent. had special nurses. Total hospital expense, excluding special nurses, $249,000. Total hospital receipts, excluding special nurses, $188,458.58. Professional fees (in addition) $109,907.76. Per capita cost per day $9.47, receipts $7.16. Average amount charged, including doctor's fee, $160; with special nurse, $281.

The deficit, which will be about $77,000 at the end of the first year is, partially (about 25%), offset by the fact that the overhead of the whole institution is shared by the new unit. Collections will show better in the next year because some of the uncollected bills will be paid on the installment plan. By the time there are 250 patients per day, perhaps, receipts and expenditures should balance, for as numbers increase, the per capita receipts will continue proportionately while costs will diminish. It is planned to reduce hospital charges when this happens.

Rates now range from $4.00 to $6.50 per day. If aid

is contributed by bequests from people who prefer to help those who are trying to help themselves, that would be another way to make possible a reduction of charges.

The patients were divided into groups: professional 27 per cent., mercantile 29 per cent., artisan 32 per cent., with average incomes of $2,101.74.

The meeting adjourned to visit the following places for inspection of new features of hospital construction and equipment: Boston City Hospital, Massachusetts Memorial Hospitals, Beth Israel Hospital, Newton Hospital, Cambridge Hospital, Boston Lying-In Hospital, Faulkner Hospital, Children's Hospital, Massachusetts General Hospital.

THE BOSTON TUBERCULOSIS ASSOCIATION

The Annual Meeting of the Boston Tuberculosis Association was held at the Twentieth Century Club, 3 Joy Street, Boston, on Monday, January 26.

Dr. John B. Hawes, 2nd, President of the Association, presided and gave the presidential address.

Miss Bernice W. Billings, R.N., Executive Secretary of the Association, presented a report of the financial operation of the Association for the year.

Dr. J. Woods Price, Superintendent of the Admission Hospital of Trudeau Sanatorium, Saranac Lake, New York, gave an illustrated lecture on the life of Dr. Edward L. Trudeau. Dr. Price paid a tribute to Dr. Hawes for his leadership in tuberculosis work in Massachusetts. He also pointed out that Dr. Cleaveland Floyd of Boston was one of the first men in the United States to use artificial pneumothorax and made a special trip to Saranac Lake to give artificial pneumothorax to Dr. Trudeau. Dr. Price said he thought the life of Dr. Trudeau had been prolonged several years through the ministrations of Dr. Floyd.

The Boston Tuberculosis Association in the past year has opened a rehabilitation workshop for discharged sanatorium patients in this City.

Through the interest of Mayor James M. Curley of Boston the old Tyler Street School was turned over to the Association and a grant of funds was received from a charitable Trust.

Twenty-five persons with arrested cases of tuberculosis are employed in the workshop under close medical supervision. The men are engaged in light woodworking; the women in garment making.

A noon-day meal is furnished to all the patients. Wages are paid to the workers by the hour and the number of hours they are engaged during the day is prescribed by the Medical Supervisor.

Arrangements have been made with some of the large department stores of Boston to merchandise the products of the workshop.

Dr. Hawes announced that the Association had received a bequest of $6,000 which will be devoted to the establishment of vocational workrooms for the children at Prendergast Preventorium.

He also stated that a Bill is pending in the Legislature which, if passed, will enable the City of Boston to assist financially in the maintenance of the Preventorium through a per diem payment for the care of children whose parents or guardians are unable to pay for their support.

MINUTES OF THE MEETING OF THE MASSACHUSETTS TUBERCULOSIS LEAGUE'S ADVISORY COMMITTEE ON HEALTH EDUCATION IN THE SECONDARY SCHOOLS

The meeting was held in the University Club, Boston, on the evening of December 22, 1930 at 6:00 o'clock with the following regular members present: Dr. C. E. Turner, Chairman, Dr. Frederick T. Lord, Dr. Alton S. Pope, Professor Curtis M. Hilliard, Dr. Richard M. Smith, Dr. Fredrika Moore, Dr. M. Luise Diez and Miss Jean V. Latimer.

The first point taken under consideration by this Committee was the problem of what could be done to improve the actual physical conditions among high school students. After general discussion of this subject and at the request of the Chairman, Dr. Moore made a report on the physical defects found in the Lynn high schools. Dr. Pope spoke briefly of the extension of the ten-year tuberculosis program into the high school field and of the necessity of building up interest among the high school students themselves. He stated, that many of the boys and girls who possibly need these examinations have refused so far. It was suggested that this problem could be assisted by educational work on the part of our local health organizations, and that this Committee ask them to coöperate with a plan to be worked out by the Educational Secretary of the League.

Dr. Richard Smith spoke of the fact that we have very little scientific medical knowledge concerning the period of adolescence and said that there is a great need for long time studies of growth and development in this particular field. It was suggested by Dr. Smith that we make use of the findings of the Committee on Growth and Development of the recent White House Conference.

The question of a more adequate type of medical examination of children leaving school to enter industry was discussed by Miss Latimer, who reported on the study made by the National Tuberculosis Association at the request of President Hoover in connection with the recent White House Conference—two Massachusetts cities being included in the survey. The study would seem to show that the medical examination of such children is generally inadequate. The relationship of tuberculosis makes this problem our special concern.

It was moved by Professor Hilliard and seconded by Dr. Moore that the Chairman appoint a sub-committee to look into the question of more adequate type of physical examination for the high school, including particularly those leaving school to enter industry, and with special emphasis on x-raying in the high school field. It was further recommended that this sub-committee confer with Miss Johnson, Assistant Supervisor of the State Department of Labor and Industries, and report back to the Committee at a later date.

Dr. Smith also suggested that any recommenda-

tions or any publicity which we might give to the question of more adequate health examinations be postponed until after the meeting of the Section on Medical Care of the White House Conference which holds its final meeting in February, 1931.

Dr. Lord suggested that such recommendations be first placed before the Executive Committee of the League for action.

In consideration of the health instruction needed in the secondary schools, Dr. Turner discussed the present status of health teaching in the junior high school as being essential for consideration before an adequate program could be built for the senior high school.

A motion was made by Professor Hilliard and seconded by Miss Latimer that the Chairman appoint a sub-committee to work out a detailed questionnaire covering the present status of health instruction and service in the junior high school, and after the survey is made, the sub-committee report back to the Advisory Committee as to the findings. In this connection Professor Turner recommended that the Educational Secretary of the League be instructed to gather material for an objective health knowledge test to be used in connection with the survey.

It was recommended by Dr. Moore and seconded by Professor Hilliard that a sub-committee be appointed to arrange with the State Department of Education to have the most eligible and available speaker on health problems speak at the state principals' association annual meeting this spring. In the absence of Mr. Schrader, who represents the State Board of Education, it was suggested by Miss Latimer that Mr. Kiernan consult with Mr. Schrader as to a speaker.

In connection with the Lynn high school health study, it was recommended that owing to certain local situations, no progress report on the study be published at this time.

As to what definite health instruction is needed in the high school, it was recommended by the Chairman that the Secretary of the Committee be instructed to gather further information and bring the question back for the Advisory Committee to consider at a later meeting.

The question of the provision in the annual budgets of the local school committees for a more adequate health service, owing to the lateness of the hour, was deferred to a later meeting.

The meeting then adjourned.

Respectfully submitted,

JEAN V. LATIMER, *Secretary.*

Approved:

C. E. TURNER, M.D., *Chairman*

FREDERICK T. LORD, M.D., *President of the League.*

THE PEDIATRIC STAFF OF BOSTON UNIVERSITY MEDICAL SCHOOL

The Pediatric Staff of Boston University Medical School held their quarterly meeting on Thursday evening, January 8, 1931, at the University Club.

Following dinner, Dr. John Lovett Morse read a paper on "The Teaching of Pediatrics."

THE SOUTH END MEDICAL CLUB

The next regular meeting of the South End Medical Club will be held on Tuesday, February 17, 1931, at 12 noon, at the office of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston.

The speaker will be Howard M. Clute, M.D., Surgeon, Lahey Clinic, and Assistant Surgeon at both the New England Deaconess Hospital and the Baptist Hospital. His subject will be "Diagnosis of Thyroid Disease". His talk will be illustrated with lantern slides.

All physicians are cordially invited to attend. The usual luncheon will be served.

SUFFOLK DISTRICT MEDICAL SOCIETY

The February meeting of the Suffolk District Medical Society will be a clinical meeting to be held at the Boston City Hospital, 818 Harrison Avenue, Boston, on Wednesday, February 25, 1931. The meeting will begin promptly at 8:15 P. M. and will end at 10 P. M.

1. Hypothyroidism—Dr. William R. Ohler.
2. Clinical and Bacteriological Study of Pneumonia—Dr. Edwin A. Locke.
3. Specific Therapy in Pneumonia—Dr. Wheelan D. Sutliff.
4. Results in Surgery of the Chest—Dr. Horace Binney.
5. Maggot Therapy in Chronic Osteomyelitis—Dr. Frederic J. Cotton, Dr. Stephen J. Maddock.
6. Motion Pictures of Transverse Cervical Cesarean Section—Dr. Reginald D. Margeson.

The various men will demonstrate their talks by means of patients, charts, lantern slides and motion pictures.

Following the meeting a light lunch will be served in the House Officers' dining-room.

GEORGE S. DERBY, M.D., *President.*

LELAND S. MCKITTRICK, M.D., *Secretary.*

HARVARD MEDICAL SOCIETY

The next meeting of the Harvard Medical Society will be held on Tuesday evening, February 10, in the amphitheatre of the Peter Bent Brigham Hospital at 8:15 o'clock.

PROGRAM

Presentation of cases.

Paper: "The Relation of Calcium Metabolism to Internal Medicine." By Dr. Joseph C. Aub, Boston.

Students, nurses, physicians cordially invited to attend.

WILLIAM P. MURPHY, M.D., *Secretary.*

BELMONT MEDICAL SOCIETY

There will be a meeting Friday, February 27, at All Saints' Parish House, Belmont, at 8.45 P. M. The speaker will be Dr. Augustus Riley, Assistant Professor of Genito-urinary Surgery at Harvard Medical School and Assistant Visiting Surgeon at the Boston City Hospital.

Subject: "The Value of Pyelograms as an Aid in Diagnosis." (With lantern slides.)

The discussion will be opened by Dr. John H. Cunningham, Jr.

STEPHEN J. MALONE, M.D., *Secretary.*

SOCIETY MEETINGS

CONGRESSES AND CONFERENCES

February 9-March 30—Lectures on Keeping Mentally Fit. Given under the auspices of the Massachusetts Division of University Extension and the Massachusetts Society for Mental Hygiene. Boston.
Lectures, in the Gardner Auditorium, State House, Boston, Monday evenings.
Course Leader: Dr. Henry B. Elkind, Medical Director, Massachusetts Society for Mental Hygiene.

February 9—The Child Is Father to the Man. James S. Plant, M.D., Director, Essex County Juvenile Clinic, Newark, N. J.

February 16—Fatigue, Worry, and "The Blues." Karl M. Bowman, M.D., Assistant Professor of Psychiatry, Harvard Medical School.

March 2—Do We Americans Really Live? James J. Walsh, M.D., Medical Director, Fordham University School of Sociology, and Professor of Physiological Psychology, Cathedral College, New York City.

March 9—The Job and Mental Health. Elton Mayo, Harvard Graduate School of Business Administration.

March 16—Emotion and Intellect in Adult Life. William B. Terhune, M.D., Austen Riggs Foundation, Stockbridge.

March 23—Normal and Abnormal Fear. Abraham Myerson, M.D., Professor of Neurology, Tufts College Medical School.

March 30—"Nerves"; Their Meaning in Our Lives. E. van Norman Emery, M.D., Medical Director, Connecticut Society for Mental Hygiene.

February 10—Harvard Medical Society. See page 295.

February 11—The New England Dermatological Society. See page 189, issue of January 22.

February 12—Massachusetts General Hospital. See page 241, issue of January 29.

February 12 and 19—Medical Clinics at the Peter Bent Brigham Hospital. See page 291.

February 13—The William Harvey Society at the Beth Israel Hospital. Dr. Frank H. Lahey will speak on "Goitre". See page 237, issue of January 29.

February 17—The South End Medical Club. See page 295.

February 27—Belmont Medical Society. See page 295.

March 4-June 3—Cardiac Course. See page 854, issue of October 23, 1930.

March 13—The William Harvey Society at the Beth Israel Hospital. Dr. Samuel R. Meaker will speak on "The Social Aspect of Gynecology".

March 23-27—Fifteenth Annual Clinical Session of the American College of Physicians. See page 240, issue of January 29.

May 11-14—Meeting of the National Tuberculosis Association at Syracuse. See page 1310, issue of December 25.

July 27-31—Third International Congress of Radiology, Paris. Complete notice appears on page 385, issue of August 21.

DISTRICT MEDICAL SOCIETIES

Bristol North District Medical Society

April 16—Taunton Woman's Club.

September 17.

Essex South District Medical Society

Wednesday, February 11—Danvers State Hospital. Clinic at 5 P. M. Dinner 7 P. M. Speaker: Dr. Bryant E. Moulton, Assistant Director of the Judge Baker Foundation. Subject: "Juvenile Delinquency."

Wednesday, March 4—Lynn Hospital. Clinic at 5 P. M. Dinner at 7 P. M. Speakers: Dr. Henry H. Faxon, Boston; subject: Treatment of Varicose Veins and Ulcers by the Injection Method. Dr. Arthur W. Allen, Boston; subject: Neurovascular Surgery.

Thursday, May 7—Censors meet at Salem Hospital at 8:30 P. M.

Tuesday, May 12—Annual Meeting. The Tavern, Gloucester. Speaker: Dr. Morris Fishbein, Editor of the A. M. A. Journal of Chicago. Subject: "History of Medical Cults." Ladies invited.

Franklin District Medical Society

March-May—The meetings are held on the second Tuesdays of March and May at 11 A. M. at the Weldon Hotel, Greenfield.

Middlesex East District Medical Society

March 11—At Reading.

May 13—At Wakefield.

Norfolk District Medical Society

February 24—Dr. F. C. Irving and Staff, "Difficult Labor Cases and Indications for Interference." Boston Lying-in Hospital, 8 P. M.

March 31—Dr. Arthur W. Allen. Subject to be announced (will deal with circulatory diseases). Hotel Kenmore, 8 P. M.

May—Annual Meeting. Date and details to be announced.

May 7—Censors' Meeting for examination of candidates at 171 Warren Street, Roxbury, 4 P. M. Candidates for schools on accepted list will forward application with certificate of graduation to the secretary at least one week prior to date of examination. Candidates from schools not on accepted list who have been in practice five years will forward applications together with five letters of recommendation from members in good standing in the Massachusetts Medical Society to Dr. P. P. Johnson, Cabot Street, Beverly, Mass., two weeks prior to date of examination. Fee for all candidates $10.00.

FRANK S. CRUICKSHANK, Secretary.

Norfolk South District Medical Society

Meetings for the ensuing year are as follows:
March 5, April 2, May 7.
All meetings begin at 12 noon. Meetings will be held at the Norfolk County Hospital, South Braintree.

The censors will meet on May 7 at 11:30 A. M. at the Norfolk County Hospital, South Braintree.

NATHAN R. PILLSBURY, Secretary.

Suffolk District Medical Society

February 25-April 29—Combined meetings with the Boston Medical Library. These meetings will be held as specified below on Wednesdays, at 8:15 P. M.

February 25—Clinical Program, Boston City Hospital. See page 295.

March 25—Clinical Program, Beth Israel Hospital.

April 29—Annual Meeting. Election of Officers. Boston Medical Library.

The medical profession is cordially invited to attend all of these meetings.

GEORGE S. DERBY, M.D.,
President, Suffolk District Medical Society.
LELAND S. McKITTRICK, M.D.,
Secretary, Suffolk District Medical Society.
HILBERT F. DAY, M.D.,
Boston Medical Library.

BOOK REVIEW

Intestinal Toxemia. By ANTHONY BASSLER. F. A. Davis Co., Philadelphia. Pp. 418. $6.00.

The substance of this book describes the organisms found in the feces, the value of elaborating them into vaccines, ectoantigens, and sera, and the therapeutic advantages of injecting these preparations subcutaneously or directly into the rectum in a great variety of bodily disorders. Separate chapters deal with the history and symptoms of the patient, the physical examination, a little information is given on the examination of the urine and blood, and the interpretation of symptoms. On the whole, the book presents a personal point of view, and many of the vicissitudes of treatment are individual. A few illustrations adorn the book, but references are not given; the index is fair, and several elaborate charts folded into a pocket in the cover describe the cultural characteristics of all the intestinal organisms.